



RETRO STYLE R32 PERFECTION
Super-cool Toyota Starlet Show-stopping GT-R has it all



JAPANESE CARS

BANZAI

THE UK'S BEST-SELLING JAPANESE TUNING MAGAZINE

+
**TURBO
TECH GUIDE**
**440BHP
IMPREZA**
**JAE SHOW
REPORT**
**PLENTY
MORE!**

Supercharged K20-
powered Prelude
with over 400bhp
raises the bar

WHITE GOLD

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@banzaimag
NOV 2015
Issue 169
£4.50



Mazda RX-7 drift car packs a
640bhp 1JZ-powered punch!



Supercharged Subaru BRZ
has a bite to match the bark

DOUBLE TROUBLE

ABP MOTORSPORT

We share the passion!

Call our Sales Team Today

01270 567 177



ABP MOTORSPORT - Your One Stop Tuning Shop

- Modern easy to find premises
- Established for over 45 years
- Fully equipped on-site workshop
- Easy access of the M6 (J16)
- Large parking facilities
- Passionate staff
- Fast mail order
- 1st class customer service
- Excellent product availability
- Competitive prices

Please phone
if your car is not
listed, as only a small
range of our parts
are listed

- Mail Order • Retail Tuning Shop
- Workshop Fitting Service • MOT
- Servicing • Repairs & Tuning

HONDA Civic Type R FN2

ABP have developed a full range of tuning parts for the FN2 Civic Type R using our own development car. Testing on the Nurburgring we offer exclusive suspension, brake and performance parts that guarantee to bring your Type R alive! Who said the EP3 was better....



EXHAUSTS

MILLITEK SPORT ABP exclusive cat-back stainless steel exhaust system.....	£499.00
These exclusive to ABP Milltek systems are quite simply a must have. Superb fit, beautiful quality, amazing soundtrack and good power gains.	
MILLITEK SPORT 3" round tailpipe trims.....(pair)	£125.00
PIPER Stainless Steel Race exhaust manifold & stainless de-cat pipe.....	£630.00
PIPER Stainless Steel Race exhaust manifold & 200CEL Sports Cat.....	£770.00
O2 simulator (removes ECU light with race manifold fitted).....	£70.50
PIPER Stainless steel cat-back exhaust system.....	£520.00
HKS Sport Muffler cat-back exhaust system (3" tailpipes & HKS trims).....	£862.00

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE

AIR FILTERS

K&N Sports air filter replacement element (lifetime warranty).....	£41.00
K&N Apollo closed box air filter induction kit.....	£158.00
AEM Short Ram air induction kit (polished or red alloy intake pipe).....	£179.00
POWERTEC Stainless steel air filter kit (including heat shield).....	£149.00
PIPERCROSS Sports air filter kit (including heat shield).....	£145.00
HKS Racing Suction Kit (includes alloy intake pipe).....	£365.00

SUSPENSION

EIBACH ABP Exclusive -30mm lowering spring kit.....	£150.00
These are the very best springs you can buy for the FN2. Offering the ultimate in looks, handling, reduced roll and better ride quality there really are no downsides. Please call for fully fitted prices.	
EIBACH Pro-Kit -15mm lowering spring kit.....	£159.00
All the advantages of our -30mm kits but with less lowering!	
EIBACH Front adjustable camber bolts (essential on lowered cars).....	£25.00
EIBACH Rear camber & toe shims (to get the very best handling).....	(each) £8.50
KW Variant 1 coil-over suspension kit (fully adjustable ride height).....	£879.00
KW Variant 2 coil-over suspension kit (fully adjustable height & rebound).....	£1,069.00
KW Variant 3 coil-over suspension kit (fully adjustable height, bump & rebound).....	£1,379.00
TEIN S-Tech lowering spring kit (Front -15mm Rear -20mm).....	£228.00
TEIN Superstreet coil over kit with upper mounts (adjustable height & damping).....	£1,080.00
EIBACH 15mm ProSpacer kit (improves looks, steering feel & high speed stability).....	£108.00
ABP Stage 1 Fast Road suspension geometry set-up (including camber bolts).....	£135.00
This set up in ABP's workshop improves the FN2 massively. Improving turn in, reducing under-steer and offering greatly improved feel & handling. A MUST HAVE MODIFICATION.	
ABP Stage 2 Fast Road suspension geometry set-up (including bolts & rear shims).....	£224.00
As above but stage 2 also includes removing the rear hubs, fitting correct camber & toe shims (included in price) and setting both front and rear geometry to fast road spec.	

BRAKES

STOPTECH Fast Road Front brake pads.....	(set) £49.00
STOPTECH Front Sport Stop Grooved brake discs.....	(pair) £190.00
STOPTECH Rear Sport Stop Grooved brake discs.....	(pair) £145.00
POWERSLOT Front 350mm Big-disc conversion kit.....	£355.00
Kit uses original caliper and offers superior looks & braking with excellent 350mm discs.	
Kit comes complete with 350mm discs, caliper relocation brackets and fitting kit.	
STOPTECH Touring 300mm 4-POT Brake conversion kit*.....	£995.00
These new budget 300mm kits use a unique directional veined 300mm grooved disc with the ST41 4-pot caliper. Kit comes complete with discs, calipers, pads, hoses and fitting kit. This kit looks great and performs even better!	
STOPTECH BBK 328mm Brake caliper conversion kit*.....	£1,450.00
The legendary Stoptech Big Brake Kit is simply awesome in every way. Using 2-piece 328mm discs and ST40 4-pot calipers the performance on offer from this kit is unreal. Essential for ultra fast road or serious track use. Kit comes complete with 2-piece 328mm discs, alloy bells, calipers, pads, hoses and fitting kit. Choice of Black or Red calipers	
*EIBACH 15mm Pro-Spacer kit (required to fit Stoptech brake kits behind OE Honda wheels).....	£108.00
FERODO DS2500 Front high performance brake pads.....	£99.50
FERODO DS2500 Rear high performance brake pads.....	£92.50
EBC Red Ceramic Front high performance brake pads.....	£87.00
EBC Red Ceramic Rear high performance brake pads.....	£54.00
EBC Turbo Groove drilled & grooved front brake discs.....	(pair) £245.00
TAROX G88 40-Groove high performance front brake discs.....	(pair) £217.00
GOODRIDGE Stainless steel 6-line brake hose kit (including distribution blocks).....	£175.00
MOTUL RBF600 High performance brake fluid (1/2 LT).....	£15.50
FOLIATEC Caliper paint kit (various colours).....	£24.90

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE

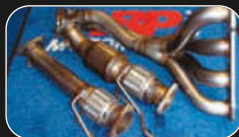
OTHER ITEMS

HKS IRIIDIUM spark plugs (set 4).....	£82.00
PIAA Headlight bulb upgrade kits (Set of 6 bulbs - sidelight, dip & main beam).....	from £95.00
YOKOHAMA 225/40X18 PARADA Spec 2 tyre.....	£125.00
YOKOHAMA 225/40X18 ADVAN NEOVA ADO8 tyre (ultimate track day tyre).....	£169.00
YOKOHAMA 225/35X19 Advan Sport OE tyre.....	£215.00

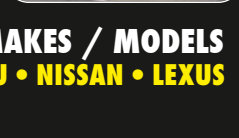
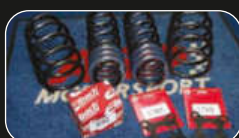
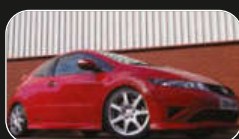
SERVICING FOR FN2 & EP3 TYPE R

ABP offer a full range of servicing to HONDA specification which will not affect the manufacturer's warranty.	
12 month / 12,500 mile service to HONDA spec including all parts & Labour.....	£119.00
24 month / 25,000 mile service to HONDA spec including all parts & Labour.....	£198.40
36 month / 37,500 mile service to HONDA spec including all parts & Labour.....	£154.00
48 month / 50,000 mile service to HONDA spec including all parts & Labour.....	£198.40
60 month / 62,500 mile service to HONDA spec including all parts & Labour.....	£119.00
72 month / 75,000 mile service to HONDA spec including all parts & Labour.....	£385.00

All of our services include MOTUL fully synthetic oil, Honda oil & air filters & NGK spark plugs. Cars are serviced to exact HONDA specification and service books are stamped maintaining the warranty. If cars are fitted with performance air filters above prices will be reduced accordingly.



**ALL PRICES
INCLUDE VAT**



HONDA Civic Type R EP3

ABP purchased an EP3 Type R back in 2001 with the sole aim of developing a full range of tuning parts. We offer exclusive ranges of suspension, brake and performance parts that we believe are the very best available. 10 years on the EP3 is still a great car and more affordable than ever so with a few choice mods the tuning world is your oyster....



EXHAUSTS

PIPER ABP exclusive Single-box cat-back stainless steel exhaust system.....	£349.00
These exclusive to ABP Piper single silencer systems are quite simply a must have. Superb fit, beautiful quality, amazing soundtrack and good power gains. System has a 6x4" oval tailpipe.	
PIPER Twin-box cat-back stainless steel exhaust system As above but with 2 silencers - same power with less sound!.....	£399.00
PIPER Stainless Steel Race exhaust manifold & stainless de-cat pipe.....	£498.00
PIPER Stainless Steel Race exhaust manifold & 200CEL Sports Cat.....	£678.00

****Independent rolling road tests show an incredible increase of +228HP using a PIPER manifold, de-cat and exhaust system on the EP3 Type R!****

DC SPORTS Stainless steel SCS cat-back exhaust system (4" round tip).....	£430.00
DC SPORTS Stainless steel SHORTY exhaust manifold (uses original cat).....	£375.00
DC SPORTS Stainless steel RACE exhaust manifold (removes catalyst).....	£395.00
All DC Sports items are beautifully crafted in polished stainless steel and offer fantastic looks and power gains.	
The SCS system comes with a removable silencing baffle ideal for track days.	
O2 simulator (removes ECU light with race manifold fitted).....	£70.50
HKS Hi Power 409 cat-back exhaust system (120mm angled tailpipe).....	£471.90
Stunning JAP style exhaust system with removable silencing baffle and polished 120mm tailpipe.....	£204.00
SUPERSPRINT Stainless Steel straight through B-pipe.....	£26.00
ENERGY SUSPENSION Up-rated engine mount insert bush kit.....	£26.00

Essential when using any modified exhaust manifold. These also aid traction & prevent wheel hop.

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE

AIR FILTERS

K&N Sports air filter replacement element (lifetime warranty).....	£49.00
K&N 57i Air filter kit.....	£109.00
K&N Typhoon air filter induction kit (wrinkle red finish intake pipe).....	£150.00
AEM CAI Cold Air Induction kit (filter relocated behind front bumper) +15BHP.....	£245.00
AEM V2 Air Filter Induction kit (Unique dual plenum intake pipe) +18BHP.....	£265.00
PIPERCROSS VENOM Sports air filter kit (fully enclosed air box system).....	£175.00

Intake kits make a massive difference to the EP3 Type R offering anything up to +188HP power gains.

Choosing the right combination of exhaust system and filter kit can add up to +25 BHP power improvements!

SUSPENSION

EIBACH ABP Exclusive -30mm lowering spring kit.....	£150.00
These are the very best springs you can buy for the EP3. Offering the ultimate in looks, handling, reduced roll and better ride quality there really are no downsides.	
EIBACH Pro-Kit -15mm lowering spring kit - All the advantages of our -30mm kits but with less lowering!.....	£159.00
EIBACH Front adjustable camber bolts (essential on lowered cars).....	£25.00
EIBACH Rear fully adjustable camber arms (to get the very best handling).....	(pair) £135.00
BILSTEIN B4 Shock absorber kit (front & rear shocks).....	(set 4) £385.00
BILSTEIN B8 Sports up-rated shock absorber kit (front & rear shocks).....	(set 4) £655.00
BILSTEIN are arguably the Worlds best shock absorbers, developed on the Nurburgring they offer fantastic chassis control without the extremes of coil-over set-ups. Simply the best real World suspension solution.	
TEIN S-Tech lowering spring kit -20mm.....	£228.00
TEIN BASIC coil over suspension kit (adjustable height only).....	£708.00
TEIN Superstreet coil over kit (adjustable height & damping).....	£804.00
TEIN Superstreet coil over kit with upper mounts (adjustable height & damping).....	£1,080.00
EIBACH 15mm ProSpacer kit (improves looks, steering feel & high speed stability).....	£108.00
JDM Rear Anti Roll Bar (including bushes).....	£102.50
E-TECH front polished alloy strut brace.....	£87.50
E-TECH front wide-bar lightweight alloy strut brace.....	£170.00
ABP Fast Road suspension geometry set-up (including front camber bolts).....	£155.00
This set up in ABP's workshop improves the EP3 massively. Improving turn in, reducing under-steer and offering greatly improved feel & handling. A MUST HAVE MODIFICATION.	

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE

BRAKES

STOPTECH Fast Road Front brake pads (set).....	£49.00
STOPTECH Fast Road Rear brake pads (set).....	£38.00
STOPTECH Front Sport Stop Grooved brake discs (pair).....	£190.00
STOPTECH Rear Sport Stop Grooved brake discs (pair).....	£140.00
POWERSLOT Front 350mm Big-disc conversion kit.....	£355.00
Kit uses original caliper and offers superior looks & braking with excellent 350mm discs. Kit comes complete with 350mm discs, caliper relocation brackets and fitting kit.	
STOPTECH Touring 300mm 4-POT Brake conversion kit*.....	£995.00
These new budget 300mm kits use a unique directional veined 300mm grooved disc with the ST41 4-pot caliper. Kit comes complete with discs, calipers, pads, hoses and fitting kit. This kit looks great and performs even better!	
EIBACH 15mm Pro-Spacer kit (required to fit Touring kit behind OE Honda wheels).....	£108.00
STOPTECH BBK 328mm Brake caliper conversion kit.....	£1,450.00
The legendary Stoptech Big Brake Kit is simply awesome in every way. Using 2-piece 328mm discs and ST40 4-pot calipers the performance on offer from this kit is unreal. Essential for ultra fast road or serious track use. Kit comes complete with 2-piece 328mm discs, alloy bells, calipers, pads, hoses and fitting kit. This kit fits behind the original Honda 17" alloy. Choice of Red or Black calipers.	
FERODO DS2500 Front high performance brake pads.....	£99.50
FERODO DS2500 Rear high performance brake pads.....	£91.50
EBC Red Ceramic Front high performance brake pads.....	£87.00
EBC Red Ceramic Rear high performance brake pads.....	£58.00
EBC Turbo Groove drilled & grooved front brake discs.....	(pair) £245.00
TAROX G88 40-Groove high performance front brake discs.....	(pair) £217.00
GOODRIDGE Stainless steel 4-line brake hose kit (zinc plated unions).....	£62.00
MOTUL RBF600 High performance brake fluid (1/2 LT).....	£15.50
FOLIATEC Caliper paint kit (various colours).....	£24.90

OTHER ITEMS

HKS IRIIDIUM spark plugs (set 4).....	£82.00
NEUSPEED Short Shift gear lever kit.....	£95.00
EXEDY OE 3-piece Clutch kit - Fitting service available.....	£195.00
PIAA Headlight bulb upgrade kits (Set of 4 bulbs - sidelight, dip/main beam).....	from £65.00
PIAA Silicone front wiper blade kit (pair of silicone wiper blades).....	£43.00
YOKOHAMA 215/40X17 PARADA Spec 2 tyre.....	£92.00
YOKOHAMA 215/40X17 ADVAN NEOVA ADO8 tyre (ultimate track day tyre).....	£156.00
ABP recommend changing the original 205/45x17 tyres to the better 215/40x17 size. Wider, slightly lower profile these tyres offer improved handling, grip, feel and they're cheaper!	

SERVICING - See FN2 Listing

FULL RANGE OF PARTS AVAILABLE FOR ALL MAKES / MODELS
HONDA • TOYOTA • MAZDA • MITSUBISHI • SUBARU • NISSAN • LEXUS

01270 567 177

NEXT DAY DELIVERY

PHONE TODAY FOR NEXT DAY DELIVERY* or WHY NOT CALL INTO OUR SHOWROOM TO COLLECT OR LET US FIT THE PARTS FOR YOU IN OUR FULLY EQUIPPED ON-SITE WORKSHOP

* Orders must be placed before noon and are only available on stock items (excluding Sunday). Please phone for postage prices on your order

~ EXPORT ORDER ARE WELCOME ~

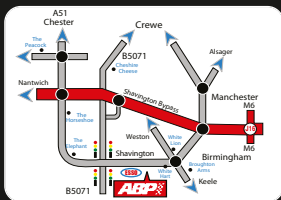
Orders can be placed by phone with a credit/debit card or immediate despatch. Postal orders and cash are also acceptable. At ABP full security checks are made to ensure the validity of the credit card holder. All attempted credit card frauds are reported to the police.

www.abpmotorsport.co.uk

~ ALL PRICES INCLUDE VAT ~

We reserve the right to change prices in accordance with certain manufacturers. Rights of cancellation details supplied. Prices are correct at time of going to press. E&OE

How to find us



ABP Motorsport
416 Newcastle Road, Shavington,
Crewe, Cheshire CW2 5EB
Fax 01270 568177
sales@abpmotorsport.co.uk

Opening Hours

Mon-Fri 8.30am - 6.00pm
Sat 9.00am - 3.00pm



ABP are an official UK importer of STOPTECH brakes and offer the full range of high performance brake pads, brake discs and the AWESOME caliper conversion kits. Used extensively in Time Attack series cars these kits are reputed to be the best available. Full range of 4 & 6 pot kits available for most Japanese cars please call for prices to make your car STOP!

STOPTECH high performance brake pads	from £38
EVO 5-9 & Impreza STi FRONT & REAR brake pad set	£118
STOPTECH High performance grooved brake discs	from £140
Mitsubishi EVO 5-9 Front grooved brake discs	£225
Mitsubishi EVO 5-9 Rear grooved brake discs	£195
Honda Civic Type R FRONT & REAR grooved brake disc kit	£330
STOPTECH Big Brake Caliper conversion kits	from £995
Honda Civic Type R EP3 & FN2 Touring kit (300mm)	£995
Honda Civic Type R EP3 & FN2 (4-pot 328mm)	£1,450
Mitsubishi EVO 7-10 (4-pot & 6-pot kits)	from £1,550
Nissan Skyline R32, 33, 34 (4-pot & 6-pot kits)	from £1,550

Full range available for Honda, Lexus, Mazda, Nissan, Subaru & Toyota



AEM offer the very best intake kits for your Japanese car. AEM lead the way in air filter technology and now use the revolutionary DRYFLOW filter units. ABP are an official AEM importer dealing directly with the manufacturer!

• Massive Range stocked • Excellent power gains • Call for prices

Cold Air Intake Kits	
Honda Integra Type R DC2	£269.00
Honda Integra Type R DC5	£255.00
Subaru Impreza inc. STi (2001 on)	£262.00
Subaru Impreza Inc STi (2008 on) +30BHP	£255.00
Mazda MX5 (2006 on)	£275.00
Mitsubishi EVO 10 +16BHP	£275.00
Short Ram Intake Kits	
Mitsubishi EVO 7, 8, 9 (inc. heat shield)	£235.00
Nissan 350Z (inc. heat shield)	£315.00
Subaru Impreza inc. STi (2001 on)	£169.00
V2 Dual Plenum Air Intake Kits	
Honda S2000	£275.00
Honda Civic Type R EP3 & DC5 Integra	£265.00



ABP are official importers UK importers of DC Sports products direct from the USA. Products include ceramic coated & stainless steel exhaust manifolds and stainless steel exhaust systems.

DC Sports Exhaust Manifolds	
Honda Civic Type R EP3 Stainless Steel Race manifold - (These fully polished manifolds also remove the catalyst)	£395.00
Nissan 350Z Ceramic Coated tubular sports manifolds (pair)	£475.00
Mitsubishi EVO 5-9 Large Bore Stainless Steel Race Manifold	£399.00
DC Sports SCS Stainless Steel Exhaust Systems	
Honda Integra Type R DC2	£399.00
Honda Integra Type R DC5	£430.00
Honda Civic Type R EP3 (inc. removable baffle)	£430.00
Mitsubishi EVO 7, 8 & 9	£449.00
Nissan 350Z (Sounds like a 911 Race car!)	£699.00
Subaru Impreza (2002 on) inc. STi & WRX	£425.00

FITTING AVAILABLE ON ALL PRODUCTS / UK & WORLDWIDE DELIVERY SERVICE



EIBACH produce the Worlds finest springs with quality second to none. Not only do they improve the looks of the car but they also offer better handling with improved ride quality. ABP offer the full range of EIBACH suspension products available including lowering spring kits, suspension kits, alignment products and wheel spacer kits. **PLEASE CALL**



ABP can supply and fit the full range of HKS tuning products from Japan. HKS offer some of the finest quality tuning parts available in the World. Products available include sports air filter kits, sequential dump valve kits, inidium spark plugs, exhaust systems, intercoolers, boost controllers, suspension, cams, electronics and more. **PLEASE CALL**



ABP stock the full range of PIAA products including bulbs, silicon wiper blades, lamps and vision products. PIAA produce a massive range of lighting products to suit all applications and they are used extensively in motorsport throughout the World. Don't confuse PIAA bulbs with the cheaper brands out there as PIAA are THE BEST.

• LED Side light bulbs from £24.50 • Headlight bulbs from £35.00 • Silicon wipers from £21.50



We offer the full range of TEIN suspension to suit all needs & budgets. TEIN offer kits to suit road, track day, drift or competition use. Choose from a lowering spring kit to a fully adjustable coil over kit with adjustable alloy top mounts. Kits available for Honda, Lexus, Mazda, Mitsubishi, Nissan, Subaru & Toyota.

• Lowering Springs from £155 • Coil-Over Kits from £660

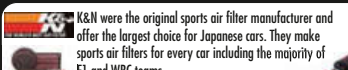


Tarox G88 40-Groove brake discs offer awesome braking performance under the most extreme conditions. Unique heat treatment process makes these one of the strongest discs available. Full range of uprated brake discs, brake pads and big caliper conversion kits available for most Japanese cars. **PLEASE CALL**

Fast Road brake pads from £49.00
G88 40 Groove brake discs from £159.00
TAROX big brake caliper kits from £1,250

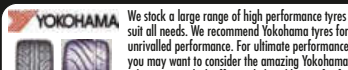


Bilstein produce a massive range of shock absorbers and suspension kits for Japanese cars including B4 replacement dampers, B6 & B8 sports shock absorbers and fully adjustable coil over suspension kits. All Bilstein development work is carried out on the legendary Nurburgring.

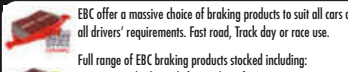


K&N were the original sports air filter manufacturer and offer the largest choice for Japanese cars. They make sports air filters for every car including the majority of F1 and WRC teams.

• Replacement elements from £29.00
• S71 induction kits from £64.00
• Typhoon induction kits from £135.00



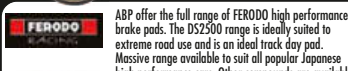
We stock a large range of high performance tyres to suit all needs. We recommend Yokohama tyres for unrivalled performance. For ultimate performance you may want to consider the amazing Yokohama Advan ADB8 which offers unbelievable grip for fast road or track day use. ABP offer excellent prices on Yokohama Parade tyres in all sizes. **PLEASE CALL FOR BEST PRICES ON YOKOHAMA TYRES**



EBC offer a massive choice of braking products to suit all cars and all drivers' requirements. Fast road, Track day or race use.

Full range of EBC braking products stocked including:
GREENSTUFF brake pads for road use from £28.00 set
REDSTUFF Ceramic brake pads for fast road use from £46.00 set
YELLOWSTUFF brake pads ideal for track-day use from £65.00 set
TURBOGROOVE grooved & drilled brake discs from £140.00 pair

PLEASE CALL



ABP offer the full range of FERODO high performance brake pads. The DS2500 range is ideally suited to extreme road use and is an ideal track day pad. Massive range available to suit all popular Japanese high performance cars. Other compounds are available for more extreme track use or full race applications.

• Honda Civic Type R EP3 & FN2 Front DS2500 Brake pads £99.50
• Honda Civic Type R EP3 & FN2 Rear DS2500 Brake pads £91.50

PLEASE CALL

WORKSHOP FITTING SERVICE

Our fully equipped modern workshop allows us to carry out a full range of servicing, maintenance & performance modifications in-house. Staffed by fully qualified enthusiastic technicians trained to the highest standards we are able to skillfully fit, set-up, tune and optimise any modifications to get the best out of your car - This is our passion! From regular manufacturer spec servicing, MOT testing, performance tuning & chassis development to full on track day preparation we can offer the complete service.



ABP's workshop carries Cheshire County Council Trading Standards approval assuring you of the highest quality and 1st class customer service. ABP achieved Trading Standards first perfect 100% mystery shop result in August 2010.

ABP were awarded CAT magazines coveted title of National Garage of the Year in both 2010 and 2011. An award we all take very seriously and testament to our very high standards.

- Performance Parts Installation
- Manufacturer Spec Servicing
- Suspension Fitting Specialists
- Wheel alignment & Suspension Geometry
- Maintenance & Repairs
- MOT Testing Station
- Customer Supplied Parts Fitted
- Clutch fitting
- Cam / Timing Belts Replaced
- Fully Skilled & Experienced Staff
- Trading Standards Approved
- National CAT Garage of the Year 2010 & 2011



SERVICING AND MAINTENANCE

We offer a full servicing & Maintenance service to our customers. ABP Service all cars to manufacturer specification therefore maintaining warranties & correct service history!

The advantages our service gives you over & above the dealers (or stealers!) are:

- Enthusiastic passionate staff
- Guaranteed level of personal service
- Full range of services including modifications
- Competitive Labour prices
- All makes / models worked on
- No problems with imports
- One-Stop tuning shop

Full range of servicing / maintenance available including timing belts, clutches, brakes, suspension & steering work.

Please phone with your exact requirements and we will be happy to advise and give competitive prices.

WHEEL ALIGNMENT & SUSPENSION GEOMETRY

- Vague Steering?
- Steering wheel miss-aligned?
- Excessive or uneven tyre wear?
- General poor handling?



Lots of Japanese cars have fully adjustable wheel alignment, castor adjustment & camber adjustment both front and rear. Manufacturer's geometry specifications allow for very generous tolerances which can lead to poor handling, excessive tyre wear, vague steering feel and even reduced MPG!

ABP can 'blueprint' your suspension geometry settings allowing you to benefit from maximum steering response & improved grip along with improved tyre life and increased economy. We have the latest computerised 4-wheel alignment equipment and are able to optimise the geometry settings on your car.

ABP can also offer unique FAST ROAD settings for many cars offering improved handling and turn in by introducing more extreme alignment practices. We can also set your geometry up to your own individual spec for track use or drifting etc.

Please phone for exact prices on your car & prepare to feel the differences immediately.

Full suspension 4-wheel alignment check and report (no adjustment)	£55.00
Front Wheel Alignment check & adjust	from £35.00
Front & Rear Wheel Alignment check & reset	from £75.00
Subaru Impreza Turbo / STi / WRX & Mitsubishi EVO 5-10	£135.00
Check and reset front & rear Wheel Alignment & Camber angles to Fast Road spec	
Honda S2000 Check and reset front & rear Wheel Alignment; Camber and Castor angles to Fast Road or Honda spec	£140.00
Honda Civic Type R EP3 ABP Fast Road suspension geometry set-up (Including front camber bolts)	£155.00

This set up includes supplying & fitting adjustable front camber bolts, reset the front & rear Wheel Alignment & Camber angles to ABP Fast Road spec. These improve the EP3 massively. Improving turn in, reducing under-steer and offering greatly improved feel & handling and reduced tyre wear!

Honda Civic Type R FN2 ABP Stage 1 Fast Road suspension geometry set-up (Including camber bolts)£135.00
This set up includes supplying & fitting adjustable front camber bolts, reset the front Wheel Alignment & Camber angles to ABP Fast Road spec. These improve the FN2 massively. Improving turn in, reducing under-steer and offering greatly improved feel & handling.

Honda Civic Type R FN2 ABP Stage 2 Fast Road suspension geometry set-up (Including bolts & rear shim kit)£224.00
As above but stage 2 also includes removing the rear hubs, fitting correct camber & toe shims (included in price) and setting both front and rear geometry to fast road spec.

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If you've had the chance to quickly flick through the magazine before settling down to read this page, you may well have noticed a fair few changes to this month's edition of *Banzai*; some subtle and some more obvious. Hopefully you will like what you see, as features such as the in-depth *Tech Talk* on page 96, and the *Quick Buyer* section on pages 104-105 will become regulars from now on. These informative guides will be covering a huge variety of topics and cars in the future, so I hope you enjoy and use them! We've started the *Tech Talk* series with a big one this month; turbochargers, something that everyone should enjoy learning more about. Aside from those features, there are plenty of other smaller bits and pieces now added to the monthly *Banzai* line-up, which hopefully will make the magazine feel bigger and better than ever. There's more to come in the pipeline, too...

In other news, I've gone and bought myself a new project car. I'm a believer in practicing what we preach at a magazine, so I've jumped in head first and got myself a true Japanese icon in the form of an R32 Skyline GT-R. It will be joining the fine fleet in the *Our Cars* section on pages 106-112. You may have noticed that this section has also developed notably in size to accommodate the expanding fleet, which now includes several guest builds.

Elsewhere in the magazine, I have to mention the cover car, or cover star, which seems more appropriate. The stunning supercharged Prelude built by UK company Hond-R is the nothing short of exceptional, in both its clinical execution and approach. It's arguably the best the UK has to offer, so read the full story on page 74 to find out why it's so special.

Otherwise, enjoy the issue, and let us know what you think of the changes, or if you would like to see more of something in particular.

Simon Holmes, Editor



The utterly stunning Prelude features a supercharged K20 and one of the cleanest installs you'll have ever seen...

BANZAI



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TO ORDER IT IN
FOR YOU

FEATURES

022 WHERE THE MAGIC HAPPENS

We catch up with Durham-based GTR Shop to see what ultra-rare Nissan artifacts the iconic tuner and restorer currently has tucked away behind its workshop doors.

028 WHAT LIES BENEATH

This Mazda may be beautifully finished, an astoundingly effective drift machine, and jam-packed with intriguing engineering solutions, but the thing everybody's talking about is the Toyota motor under the bonnet...

036 GETTING DIRTY

Castle Combe's Rallyday is a great way to keep up-to-date with the bonkers, anti-lag-infused world of rallying. And this year was no exception...

050 JAE 2015: NEW START AT NEWARK

It was all change for the JAE show this year, with an all-new venue and some fantastic new activities making it one of the most fun yet!

056 STARLET FEVER

When it comes to cars, how do you define 'old school'? We think you'll agree, Max's super-retro '79 Toyota Starlet seems to pretty much single-handedly nail it...

074 SHAKING THINGS UP

Every now and then it pays to do things differently, and they don't get much different than Hond-R's supercharged K20Z BB6 Prelude...

088 SIMPLY THE BEST

Voted as one of the best R32 Skylines in the UK by the GTR Owners' Club a little while back, the best just got better...

126 IF IN DOUBT, FLAT OUT

Dan Hardwick is a man who knows his way around an Impreza. And for his latest project he decided to finally fulfil a long-held dream of big-power Bug Eye thrills...

NEW

100 TECH TALK: TURBOCHARGERS

In the first of a new series, *Tech Talk* explores how and why mechanical components work the way they do, and this month, we're starting with turbochargers...

NEW

104 QUICK BUYER: HONDA S2000

Here's a brief rundown on what you need to know when it comes to bagging yourself a second-hand example of Honda's finest convertible sports car...



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044

THE DEVIL'S IN THE DETAIL




Just another Rocket Bunny BRZ? Don't let the steroid-injected exterior fool you – Risky Devil's supercharged Subaru means serious business.

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THE COLUMNIST



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NEW

MOTORSPORT SPOTLIGHT



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WHAT IS IT?



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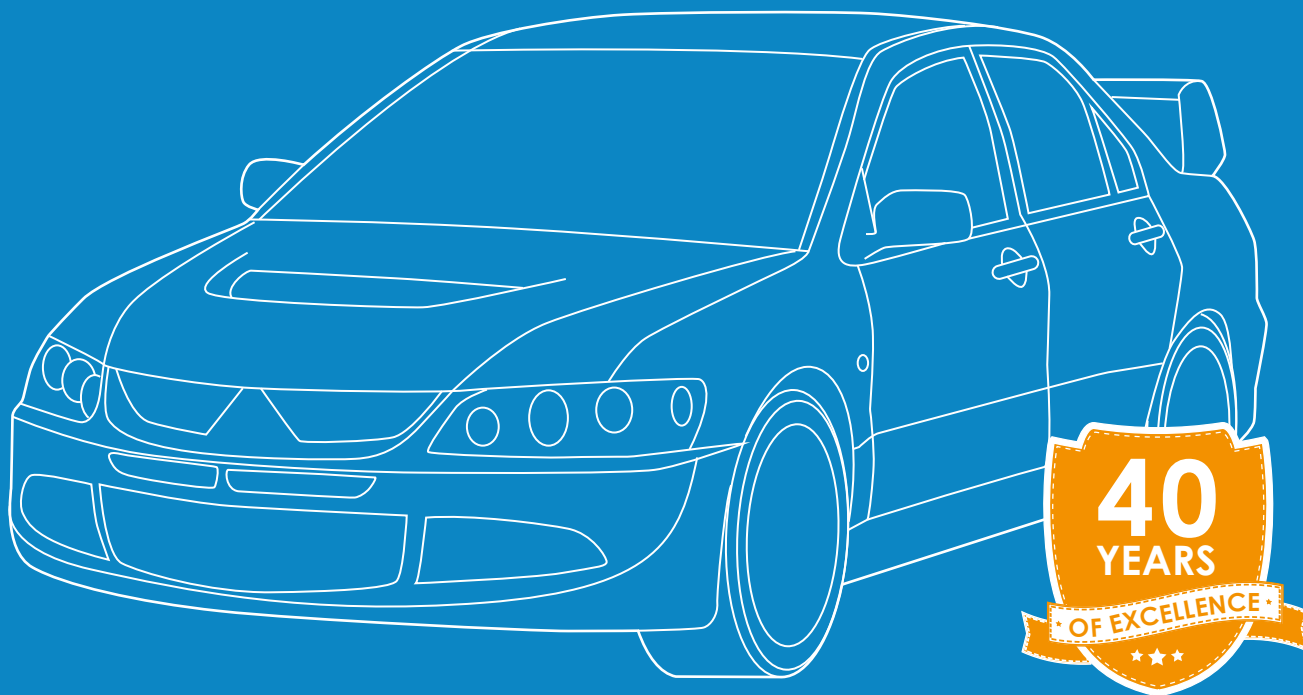


056



088

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AIRREX SYSTEM FOR LEXUS GS

Lexus GS owners that are keen to rock that bang-on-trend Liberty Walk-style look on their luxury barges are in luck, as AirREX has announced that its air suspension kit for all GSs from 1991 to present is now in stock in the UK!

What does an AirREX kit consist of then? The digital air management system is fully assembled and air-tested from the factory, packaged in a gorgeous wood casing to make it as easy as possible to install.

Control comes from a hand-held LCD command unit, where almost every aspect of the car's suspension can be changed quickly and easily. The top-quality struts are also sure to work wonders on British roads, perhaps proving to make your Lexus even more comfortable!

PRICE: £3999

CONTACT: www.airrexuk.co.uk



KING OF THE BLING

Casio's new Edifice EQB-510D watch is primarily designed for those who like to travel the globe, as it features near-sci fi levels of tech to ensure you always know what time it is, wherever you are.

By connecting to your smartphone via Bluetooth, the watch will automatically update when you enter a new time zone. Meanwhile, the secondary dials are used like a watch-within-a-watch to let you know what the time and date is back at home. The suave timepiece will also automatically update twice a year to adjust between British Summer Time and Greenwich Mean Time. Clever stuff!

On top of all this, the watch comes with the usual crazy Edifice goodies such as solar charging, 10bar water resistance and a stainless steel body.

PRICE: £300

CONTACT: www.casioonline.co.uk



BREATHE DEEP

Pipercross' crankcase breather is one of those simple-but-effective modifications that we didn't know how we lived without.

Designed to fit on to existing crankcase breathers and oil catch tanks to allow oil vapour to vent rather than flow back into the engine inlet, these little gems should protect your engine and help it run more smoothly. It's made from stainless steel and features a built-in stepped neck to allow for 13, 16 or 19mm pipework. Oh, and it's pretty cheap, too!

PRICE: £20.39

CONTACT: www.thepipercrossshop.co.uk





CTR TUNING BEGINS

We're excited to follow numerous stories of brand-new Honda Civic Type Rs as they begin undergoing tuning up and down the country (see pg14 for one example of this).

Essex-based AmD Tuning is one of the first on the scene, being able to supply

software updates to complement the newly-developed Milltek exhaust system for the boosted hot hatch. The tuning house is currently offering free fitting on Milltek exhausts for the car, and will even offer the remap for half price if bought at the

same time as an exhaust system.

If you're lucky enough to own one of these rapid cars, get in touch with AmD to see how it can make it even more fun.

PRICE: POA

CONTACT: www.amdtuning.com

TOP OF THE PILE

British parts specialist AS Performance is now proudly stocking prestigious Australian-based Suspension Concepts' adjustable camber and caster suspension top mounts for a large number of Japanese car applications.

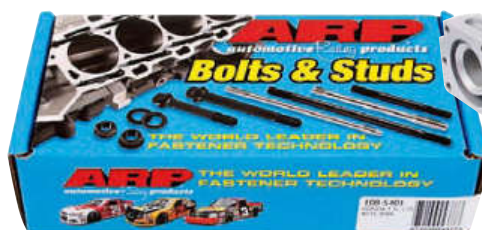
Designed, manufactured and assembled Down Under, these mounts differ from others on the market as they permit a staggering 20mm negative and 10mm positive camber. In fact, in some applications, adjustment will be restricted by the body panels in the strut tower, that's how much range they can offer!

The parts are adjusted by simply loosening the nuts which attach them to the strut tower. Once these clamping nuts are loosened, the centre slide plate can be relocated to any position in the adjustment window. They also boast a robust high tensile spherical bearing, common shock mounting collets and, best of all, are easily serviceable.

Suspension Concepts has over 50 years of experience in the motorsport game, so you're definitely in safe hands...

PRICE: From £200 for a pair

CONTACT: www.asperformance.com



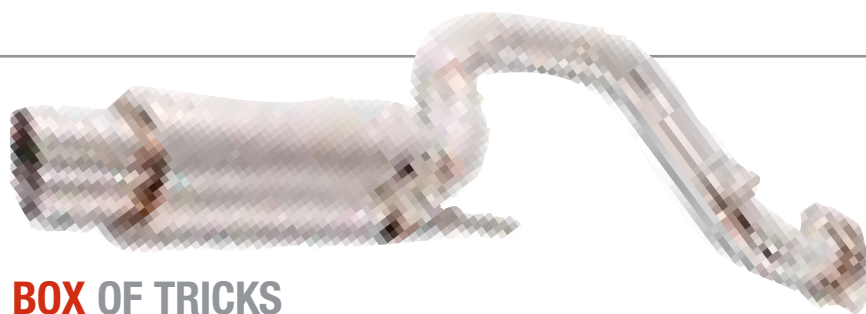
CR-Z STUDS

There seems to be more and more examples of tuned up Honda CR-Zs out there nowadays. In fact, we're following the build of a race-ready version of the hybrid car over in *Our Cars* (Banzai 10/15). This is why we were interested to see that ARP's latest engine stud kit is designed for this futuristic

sports car. The Pro Series main stud kit is likely to be a crucial part for those adding a lot more power to their 1.5-litre engine, as they're rated to 200,000psi and made from sturdy 8740 chromoly steel.

PRICE: POA

CONTACT: www.arp-bolts.com



BOX OF TRICKS

Fancy some affordable performance gains from your seventh-gen Celica?

Japspeed has just released this stainless steel exhaust back box which promises to give you around 20bhp more to play with from your coupé, plus a much nicer growl, of course!

The mandrel-bent pipework is 2.5" all the way through, supplied from the cat-back, and features a 4" exhaust tip with a removable silencer bung. It fits both 140bhp and 190bhp 1.8-litre models.

PRICE: £169.99

CONTACT: www.japspeed.co.uk



WHO IS LASSA TYRES?

You probably didn't miss our bright pink drift-spec Nissan GT-R from the October issue of *Banzai*. How could you, frankly? What you may not have noticed, however, is that the car is part of Team Lassa Tyres – a highly successful collection of BDC monsters which are doing really well in this year's championship.

Lassa Tyres is becoming a pretty big deal in the UK recently, so we thought we'd check out what it was all about. Produced by Brisa – a joint venture company between the Sabanci and the Bridgestone Corporation of Japan – Lassa

creates a vast range of consumer and commercial tyres, renowned for their strength and durability on both the road and in motorsports. In the UK, Lassa markets an extensive range of TÜV-approved tyres for cars, vans, 4x4s, SUVs and trucks.

2015 marks the fourth year of Team Lassa Tyres in the British Drift Championship, and with several more drift events planned for the brand in the future, keep an eye out for some of its serious rubber that may well be perfect for your car...

CONTACT: www.lassa.com

ADD SOME COLOUR TO AUTUMN

What's the best way to deal with the weather getting more and more dull? By buying some brighter clothes, of course!

Parts expert 6two1 is on hand to supply some colourful T-shirts to keep your wardrobe fresh. Our pick is this purple tee featuring the company's 'Retro' logo in white. We can't think of anything this wouldn't go with!

Check out the SpeedStore on the website for the full range.

PRICE: £11.99

CONTACT: www.6two1.com



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PD08K Kit	Yellowstuff highest friction pads and USR slotted black Geomet® discs
PD012K Kit	Redstuff premium fast street pads and GD sport drilled black Geomet® discs
PD013K Kit	Yellowstuff highest friction pads and GD sport drilled black Geomet® discs
PD016K Kit	Greenstuff sport pads and BSD blade style slotted black Geomet® discs
PD017K Kit	Redstuff premium fast street pads and BSD blade style slotted black Geomet® discs
PD018K Kit	Yellowstuff highest friction pads and BSD blade style slotted black Geomet® discs
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PHANTOM BRAIDED LINES FOR BRZ/GT86

Converting your car to run with braided brake lines is a great way to improve stopping power without forking out for a big brake kit.

Goodridge Performance is known for supplying stainless steel braided lines for a massive amount of cars already, and has just announced that a kit is now available for the BRZ/GT86.

Falling under the 'Phantom' range, you can expect much better resistance to corrosion, improved braking efficiency, and of course, a complete absence of sponginess through the brake pedal, regardless of how hard you're driving.

PRICE: £79.80

CONTACT: www.goodridge.com



BUILD YOUR OWN GT-R

This is the closest most of us will get to the Nissan GT-R GT3 race car driven by Walkinshaw and co in the Blancpain GT Series and 24 Hours of Spa races – a build-it-yourself card model!

Supplied as a flat card, it doesn't require any tools or glue, so is an ideal stocking filler for kids...

PRICE: £2.92

CONTACT: www.godziller.myshopify.com



WINTER'S COMING

If you're thinking about getting your car ready for the cold spell, the thought of giving your cooling system a refresh is likely high up your to-do list. DEI's Radiator Relief Cooling System Flush helps to clear out rust deposits and dissolve oily residue from your car's radiator system before you add fresh anti-freeze back into your car. Talking of which, DEI has also released a performance additive (Heater Hotter) to help rapidly absorb heat from the engine and transfer it to the cooling system without raising engine temperatures. How does this relate to winter driving? Faster engine warm-up times and less time to wait for hot air to come through the heater vents!

PRICE: POA

CONTACT: www.designengineering.com

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SIZES: 15-20"

CONTACT:

www.b-gdirect.com

NOTES: Matt

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PRICE: From £118.99 per wheel



BBS SX

SIZES: 17-19"

CONTACT:

www.bbs.com

NOTES: Winter-orientated one-piece from respected German brand. Snow chain compatible! Colours include Brilliant silver and Crystal black.

PRICE: POA



7TWENTY STYLE49

SIZES: 17-18"

CONTACT:

www.7twenty.co.uk

NOTES: JDM-style five-spoke featuring the all-important dish. Available in matt bronze, matt grey, and hyperblack.

PRICE: From £150 per wheel



AEZ STRAIGHT

SIZES: 17-20"

CONTACT:

www.aez-wheels.com

NOTES: Salt-spray tested for winter worthiness, these simple ten-spokes are sure to go down a treat this winter.

PRICE: POA



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DREAM AUTOMOTIVE — FK2 HONDA CIVIC TYPE R

We took Dream Automotive's development FK2 Civic Type R out for a spin to see how tuners are already making their mark on this acclaimed hot hatch.

Words: Sam Preston

Photos: Rui Boino and Sam Preston

Although it's only officially been available to the public for a matter of weeks, the all-new Honda Civic Type R is already making waves in tuning circles across the globe as the boosted car's promising tuning potential becomes unlocked by those brave enough to start fiddling with it.

Even Honda's chief engineer himself, Hisayuki Yagi, confidently told *Banzai* during the car's launch that "the engine is designed for more performance. The [forged internals] reduce weight, but all signs are in favour to further increase the performance". With the blessings of one of the car's founding fathers to crank this car's capabilities up a few notches, then, surely it would be rude not to?

During our hunt for some tuning houses which were already tweaking the new CTR, it didn't take us too long to stumble upon Dream Automotive. Its originally-white car, which has been adorned with the company's livery in the form of an eye-catching wrap, has been to the vast majority of the UK's Honda shows this summer, even taking to the track on more than one occasion to dice with some of its older relatives.

Dream Automotive is a fairly new Honda-specific tuning company, fronted by Phil Crafford and based in Hertfordshire. The firm is currently in talks with a number of performance parts companies in order to eventually develop tailor-made tuning packages for the car. We caught up with Phil and the team to see how they were getting on so far...

Upon picking his new CTR up and driving it back to his garage earlier this summer, Phil began by designing, creating and applying the car's Dream Automotive livery vinyl wrap.

After all, as this was one of the first new CTRs in the country, this car was going to attract all sorts of attention, so what better exposure for the fairly new company?

Phil then approached Eibach to help develop a line of Dream-branded lowering springs. These units will offer up a 25mm drop all round, with spring rates likely to remain the same to allow all factory functions to still be used in both normal and '+R' mode. These are due to go on-sale towards the end of this year.

Ownership of the test mule was then entrusted to the very capable hands at Forge Motorsport, who in the space of two weeks mocked up a hard air intake pipe and dump valve. These parts now sit on the car, but will be replaced with silicone variants once Forge has manufactured them. The team will also be fitting a hefty front-mount intercooler, all in anticipation of Phil eventually cranking up the boost on this fiery hatch.

Next on Phil's to-do list was to take the car to Mongoose Exhausts for the team to fabricate a downpipe-back stainless steel exhaust system. Although the real power hikes will arrive when a new ECU is eventually developed (Phil hinted to us that he is in talks with a large powertrain control company as we speak...), the new exhaust supplies a much-needed subtle growl into the mix all the way through the rev range, to add more intent to the previously high-on silent car.

Also in the pipeline is a performance panel air filter replacement from Pipercross, along with an Eventuri carbon fibre air intake from Luton-based Evolve Automotive. Phil explains how passing his car from company to company across the country will all be worth it eventually. "Once everything starts coming together, I'll be making hand-picked tuning packages and services through Dream Automotive." And with the work the team has already carried out, we reckon they could be the go-to tuner for the new CTR before long.

With its whooshing dump valve and burbling exhaust, then, this is no ordinary Honda Civic. The car feels more responsive now thanks to its opened-up exhaust system and reworked airflow up front. Not that it felt sluggish in the first place, of course. We can't wait to see how the uprated suspension adds to the car's already fun and playful chassis...

CONTACT: www.dream-automotive.com





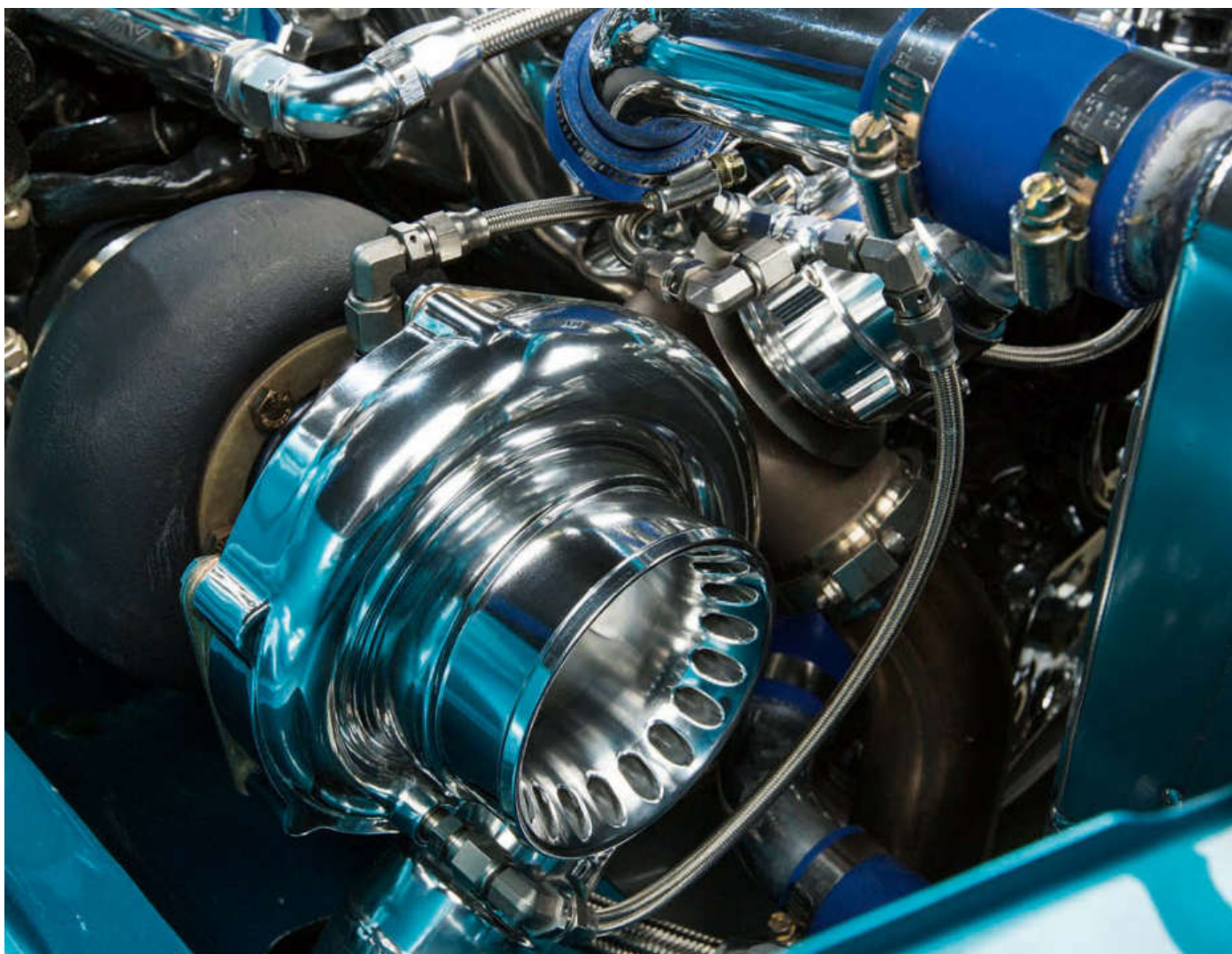
WHO IS DREAM AUTOMOTIVE?

Ex-Honda technician/foreman of over 12 years, Phil Crafford, began Dream Automotive after being offered a unit in the rather unusual setting of the local Falconer School's grounds back in June 2014.

Over a year on, and the business has now blossomed within the school's workshop units and employs another pair of hands in the form of apprentice Joe. Phil occasionally gets work experience students in, too, to lend a hand and learn valuable tuning skills.

Phil tells us he particularly enjoys tuning newer Hondas, and already has a fleet of familiar cars under his belt (like his amazingly wild S2000-powered Lotus 7 derived two-seater and Dan Sopher's eye-catching CR-Z pictured below – more on this one very soon...).





Steve Neophytou, better known as 'Stav', is a professional motoring journalist and life-long petrolhead. He has been writing for UK tuning magazines for over ten years and was previously deputy editor at *Redline* magazine.

Doing your homework isn't just for school, it comes in handy when it comes to tuning too...

I've been around tuned cars all my life, it's my hobby, and for the last 15 years it's also been how I've made my living. While the cars people build, own, and drive, never cease to impress me, there's some things that I really wish would change. For this reason my columns/rants will be constructive ones, mostly about the thought process people go through when tuning cars, as 'unusual' would be a nice way of explaining how some people go about it...

Something I see almost daily in the UK tuning scene – and it really does seem to often be a UK thing – is people picking random parts off 20 good, but totally different engines, fitting it to their own engines, and then wondering why the final result is a bit rubbish.

Don't get me wrong, taking influence from other engines is a good thing, but picking and choosing cool bits without any real understanding of the final result is what's holding back the tuning scene to some extent, as massive amounts of money and potential is wasted.

Engines tend to only be as good as their biggest restriction, so overdoing certain parts will either do you no good, or actually hurt your performance. You see lots of people fitting wild cams thinking it's a great idea, but in reality it will do almost nothing for peak power unless the rest of the engine is as wild too, and usually ruins lowdown performance too. Fitting an overly big turbo is another common one. Unless for some reason you have to run low boost for your required power, don't go fitting a 600bhp turbo when you only want 400bhp; it will drive badly when compared to a smaller turbo that's still capable of the required power.

Spending ridiculous amounts of money on parts and ignoring the one massive restriction is just as bad; if you have one part which is limited to 150bhp, you're only going to have 150bhp no matter how many thousands you've spent on swanky 1000bhp parts elsewhere on the engine.

It all boils down to one thing: using common sense and logic. You don't have to be a tuning expert, just use your head! 🚀



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SHED SOME LIGHT...

I've got a Suzuki Jimny which I take off-roading most weekends. I want to carry on this over the winter and wondered if you knew of any decent additional lighting companies that may have products that fit my 4x4?

Simon Hodder, via Facebook

We've got just the solution for you, Simon. Lazer Lamps is a British-based company which supplies great LED auxiliary lighting

solutions for off-roaders. Some of its new products are really slimline, too, meaning they shouldn't look ridiculous on your miniature 4x4!

We spotted a Ford Fiesta rally car at the recent Rallyday event (see pg36), and couldn't

believe how much light the units managed to kick out, even in full daylight! So you should be in safe hands. Visit Lazer Lamps' website (www.lazerlamps.com) to see if anything catches your eye.



PREMACY PIMPING, PT2

I saw Matt Withers' letter in the October issue of *Banzai* (Premacy Pimping) and was very excited to see an article about the Mazda Premacy! I've owned many Japanese cars but since starting a family have owned a Mazda Premacy Sport. Since day one, me and the wife have loved it to bits! We've customised it with lowering springs, refurbished and resprayed alloys, a panel filter, wind deflectors and a few other extras. We think it has to be one of the cleanest examples of a Premacy Sport in the UK. So I just wanted to say thanks for putting the Premacy out there, and I hope you enjoy the picture of my car that I've attached!

Chris Pasby, via email



DREAM ON!

Hi, I would like to introduce 'Dream 227' a new automotive events company that has been created by a group of modified car enthusiasts. With backgrounds in events organisation, large scale club management and automotive photography we aim to combine our knowledge to produce national shows and events which tick all the boxes for everyone in the scene.

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Our first major event in the UK takes place on the 29 November 2015, where we will have exclusive access to Mayflower Park in Southampton. We expect to see 1000+ vehicles from all over the South Coast, along with a number of trade stands and food outlets. See more details on our website.

We look forward to seeing as many of you as possible there...

www.facebook.com/dream227
Ryan Reeves, via Facebook

CONTACT US

Do you want to comment on what you like in *Banzai*? Have you got a suggestion that you think would make each issue even better? Do you need our help with technical queries or advice, or do you just want to share something cool with the community at large?

Then please feel free to contact us using one of the following methods:

E: banzai@unity-media.com
W: www.banzaimagazine.com





SEMI SLICKS AND THE LAW

I'm running a set of Toyo R888 semi-slick tyres on my daily driver, and keep hearing comments from friends and that they might not be road legal nowadays. Could you clarify the rules on semi-slick tyres for me?

Rob Moore, via email

You've brought up an important point, Rob. For many, the line as to what's legal and what's not in terms of track tyres has become blurred over the past year. This is largely thanks to motorsport's governing body, the MSA, having previously earmarked the R888/R888R pairing as due for future removal from the all-important 'List 1b' – which denotes road legal tyres approved for competition use.

As the backbone of many British Club Championships, this approval is vital. However, having noted both tyre's conformity to the new road legislation, the MSA has since announced that it will be reinstating the tyres' '1b' status in the next issue of the sport's handbook – the 'Blue Book'.

We spoke to Toyo UK's Motorsport and Technical Director, Alan Meaker, who said: "It's clear that there is a lot of confusion in this important market. Therefore, it is important for us to put some facts back into the marketplace to reassure both retailers and end-users. They, along with a handful of other quality designs – the Toyo Proxes R888 and R888R – will retain their E-marking, full road legality and MSA Blue Book eligibility. From our point of view, and thanks to the quality of our design, the new legislation hasn't changed a thing. It's important for consumers to check what they are buying though – as not all brands and products have been able to conform as we have. Certain other tyres, if produced after the 2014 cut-off date, may be illegal to use on the highway or for club competition."

So, when it comes to Toyo R888 and R888Rs, you're fully legal, Rob, as long as you've still got the all-important 1.6mm of tread, of course...



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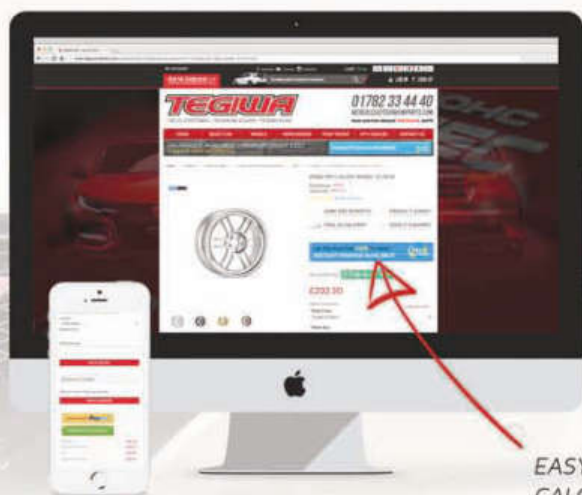
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WHERE THE MAGIC HAPPENS

We catch up with Durham-based GTR Shop to see what ultra-rare Nissan artifacts the iconic tuner and restorer currently has tucked away behind its workshop doors.



WHO IS GTR SHOP?

The GTR Shop has become one of the most respected Nissan and Datsun restorers and tuners in the UK over the last decade.

Fronted by Dave Warrenner, who himself has become something of a legend on the scene, the firm has had some of the world's most famous JDM car builds put through its workshop. We took some time out with Dave to hear his story.

"I worked at a local Nissan dealership in the manufacturing plant originally. Back when they were new, a Nissan worker brought an R32 GT-R to the garage next door to us. After showing some interest he took me for a ride, and I've been a fan of GT-Rs ever since!

"I formed the business as it stands now in 2006. It started out as an online parts supplier – I'd get modified JDM vehicles imported in and break them for parts. Looking back now, it's painful to think of some of the cars we broke! But ever so quickly, the business blew up in popularity. We became the real-life 'overnight parts from Japan' suppliers with our 48-hour delivery service!

"As a massive car enthusiast, I wanted to let my customers know I wasn't just a businessman. That's why I built the R33 GT-R back in 2006-2007. With an OS Giken 3.0-litre engine and full Do-Luck body kit, it became extremely famous not just in the UK, but in Japan as well. People related my car to the business which only helped boost the GTR Shop.

"In my time working here, I have visited Japan myself on several occasions. Getting a personal invite to the Tochigi GT-R factory by Nissan's vice president to thank me for my work with new and classic GT-Rs was one of the highlights, especially as I got to drive R35 GT-Rs around its test facility with the vice president for the afternoon! That was great!

"We pride ourselves on being able to offer the full service at the GTR Shop – a customer can not only get their dream, rare car shipped to wherever they are in the world from us, but also have it completely restored or modified to suit their needs if necessary. We've had some super rare cars in recently, including our ongoing restoration on what is possibly Europe's only genuine, road-going Hakosuka-shaped GT-R (see pg112 for more on this). We've also shipped cars to places such as America, Australia, the UAE and all across Europe.

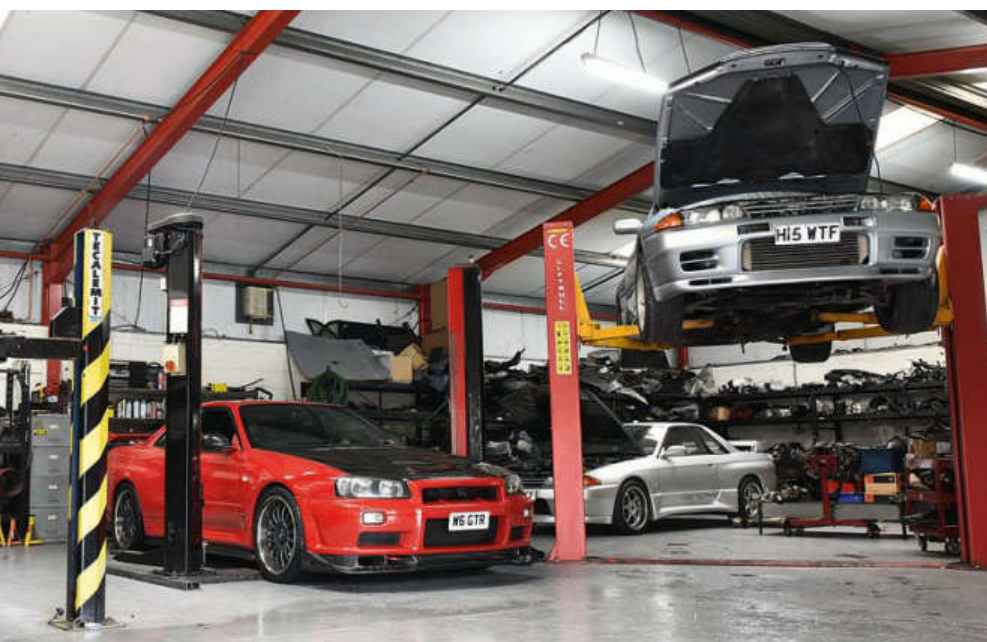
"I'd love to thank my staff (Dave, Ian, Kieran, Steve and Chris) for their continued levels of commitment and sheer professionalism, whom without their input would have made what we achieve here nearly impossible."

Words: Sam Preston Photos: Chris Wallbank

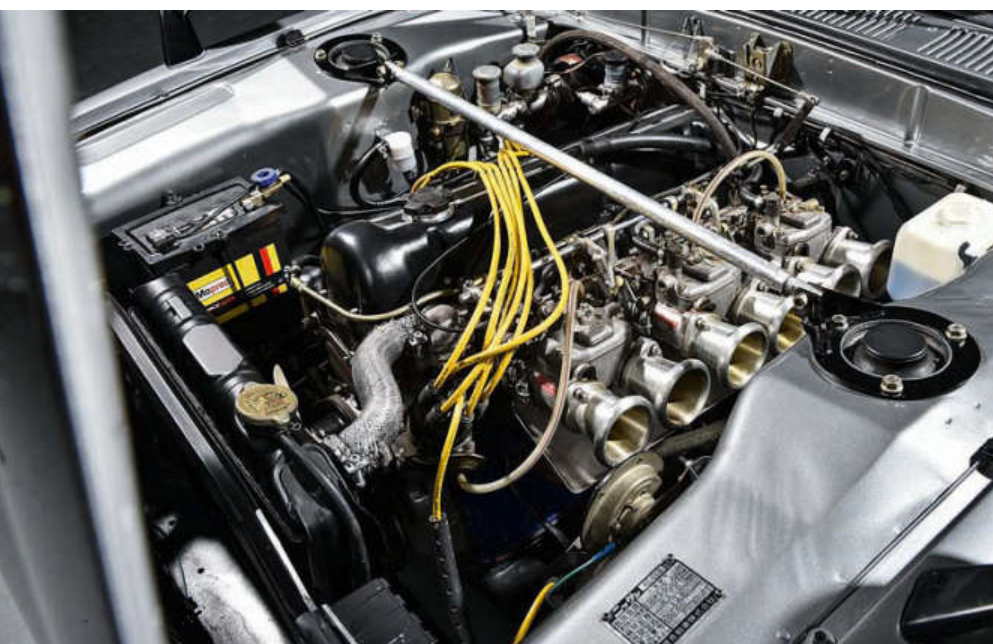
Treasure often lies where you least expect it. That's why we were in no way disheartened upon arriving at this somewhat unassuming looking industrial unit after being kindly invited up by its owner for the day. Because if half of the things we'd heard about GTR Shop were true, we knew it was going to be one of our most memorable days of the year.

If you've been lucky enough to spot an early Nissan Skyline at a UK car show, chances are company founder Dave Warrenner and his team here have played at least a small part in getting it on British roads. For the last ten years, the garage has imported and maintained some unbelievably rare and sought-after Japanese metal for UK customers, with the subsequent reputation impressing even those in the know out in Japan.

We've selected two of the GTR Shop's current offerings to illustrate just what the firm has achieved: Dave's very own and freshly restored 1972 Skyline GT-X, along with an R32 Skyline GT-R Nismo.



KGC10 NISSAN SKYLINE 2000GT



Above: Original 2.0-litre straight-six 'L20' engine benefits from some old-school JDM tuning



The stand-out car from our visit, thanks in part to the incredible condition it's in, this 'Hakosuka'-shape Skyline GT-X is Dave's personal car, and has been treated to the mother of all restorations by the team to leave it in the factory-fresh state it stands in today.

The spec means that this '72 car falls one below the famed GT-R, retaining a throaty straight-six motor and throwing in luxuries that the lesser models didn't come with (such as tinted glass and even electric windows).

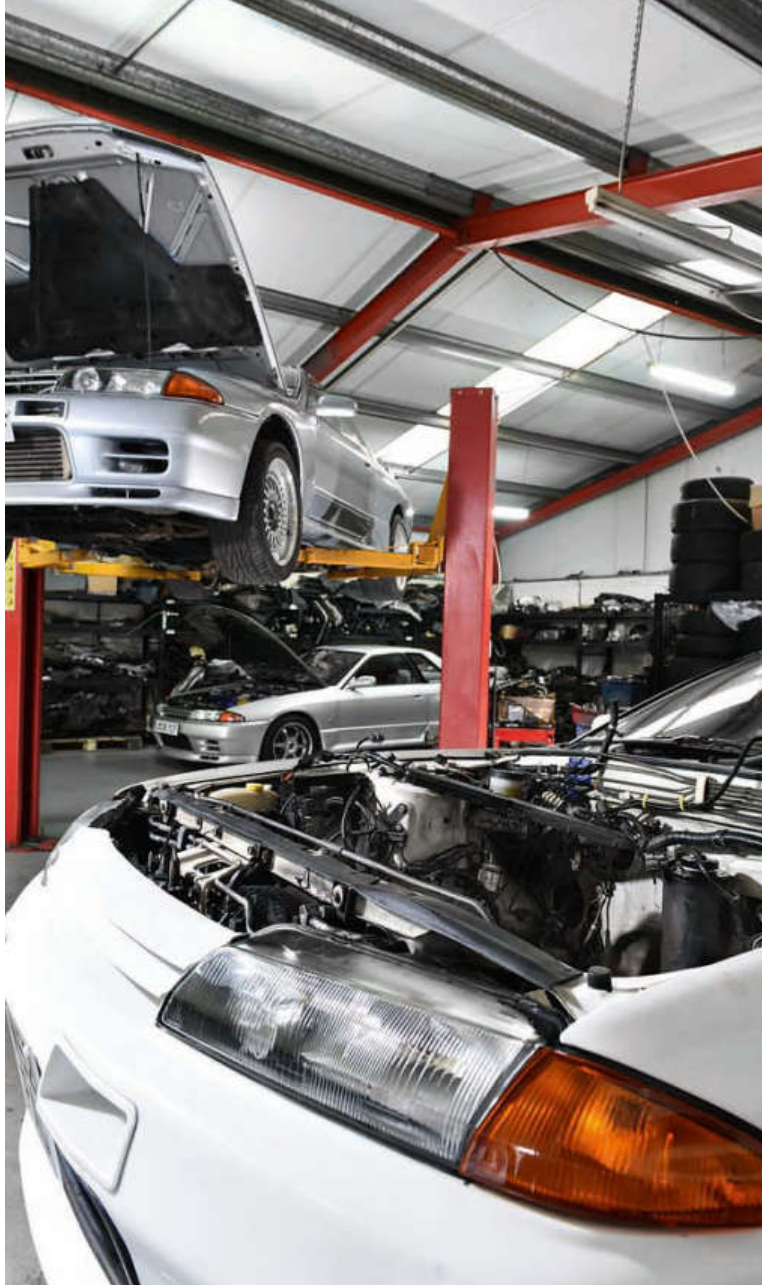
The story behind this coupé is as fascinating as many of the other cars which reside in the GTR Shop, and inevitably starts several years ago in Japan. The car was bought from new by a Mr Ihto-san, a fisherman who continued to own the car right up until Dave imported it over in 2009. Ihto-san lovingly fettled with his car using old-school tuning methods, allowing him to race it in Clubman and Touge races most weekends.

Subtle modifications to the 2.0-litre block included porting the head in a very old-fashioned manner, along with adding the Nissan-approved 'Mikuni Sports Carb Kit', leaving the lump screaming up the rev range in a much healthier way than the standard unit does. "I'm glad it's still got the original engine in it," Dave explains. "I like to think I'm keeping the old owner's honour this way."

Back at the GTR Shop, Dave began a full bare-metal restoration of the car's body. Wanting to keep as many of the original parts as possible (including the window seals, door rubbers, and even the parts of the suspension), means that although spotless, the car still retains a certain worn patina which only adds character to the vintage feel.

To modernise the car, Dave opted for brand-new but period Koni dampers and a set of rare Watanabe Type R magnesium alloy wheels to complement the new respray in the piano-style dark silver paint scheme more commonly seen on R34-shaped Skylines.

"I built the car to be used and not to be placed in a museum," Dave says. "But if you are after one yourself, there are very few left in the world in this condition..."



The Durham-based garage is a treasure trove of all things GT-R



**“I’m glad it’s still got the original engine in it.
I like to think I’m keeping the old owner’s honour this way”**



BNR32 NISSAN SKYLINE GT-R NISMO

In 1990, Nissan created 560 special edition R32-shaped GT-Rs, 60 of which would become the iconic race cars we've come to know and love, and the other 500 destined to be homologation road cars under the 'Nismo' guise. Needless to say, then, that finding one of the 500 original examples now is now proving more difficult than ever before.

Dave stumbled upon this car when searching the online import sites for a GT-R V Spec II version of the R32 Skyline for a loyal customer. It weighed in at a grade 4.5, and was near enough factory condition, with just 41,000km on the clock. With the original seat covers and all paperwork still with the car, it didn't take long for Dave's client to give the green light to purchasing the car.

Luckily, the car was in as great condition as promised on the listing, remaining completely standard to act as another rolling example of some of Nissan's finest work.

Nismo spec'd cars came with a revised engine and twin 'Nismo' turbochargers, all of which means it's even easier to wind up the boost on the RB26 engine if required. It also comes with a more aggressive aero kit, and parts such as the ABS system are removed to save weight.

Now given the all-clear to go to its new home, Dave tells us that this car will likely remain entirely standard, being carefully stored away and no doubt becoming a crucial piece of car history in years to come 🌸



Nismo cars benefitted from a subtle body kit and a tweaked RB26 engine

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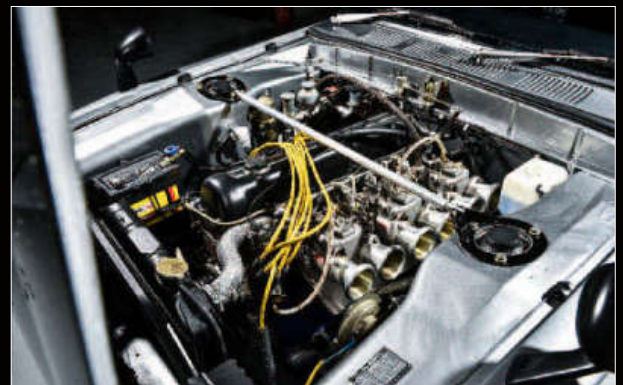
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This Mazda may be beautifully finished, an
astoundingly effective drift machine, and
jam-packed with intriguing engineering
solutions, but the thing everybody's talking
about is the Toyota motor under the bonnet...

S BENEATH



Words: Daniel Bevis and Simon Holmes Photos: Steve McCann

1JZ MAZDA RX-7



“The car has a great reputation for its build quality and looks. A lot of thought went into everything to put it together”



Although the car's main focus is to perform on track, the overall fit and finish of the build is exceptional. Diemax Engineering fabricated the neat bespoke items such as the switch panel and dash holder

The #because race car hashtag is ubiquitous on social media these days, so much so that it's become a sort of circular joke within itself. It's an automotive meme that suggests any

relevant question can be answered with that particular phrase: Why does your five-door car only have two seats? Because race car. Why have you lowered my shopping car beyond any semblance of driveability, son? Because race car, mum. And so on. You know the score, you've used the internet.

Sometimes, however, we find a situation in which that simple justification is all that's required to explain away a seemingly odd or overtly polarising decision. You see this FD RX-7 we're looking at here? It's got a Toyota 1JZ motor under the bonnet. Why? Oh, you know why: "It's one of our favourite engines; we were always going to fit the 1JZ engine to this car," says owners Peter and Steve Donnelly matter-of-factly. "We did consider going for a 2JZ at one point, but with the motor being that little bit taller and space being an issue in the bay, we went for our very own fully-forged 1JZ." And that's as simple as it needs to be. Yes, the Donnelly family has snubbed the triangular mysticism of the FD's native Wankel box-of-tricks and it's a move that's undoubtedly going to enrage a few purists, but he's not altogether bothered about the potential grief. This is a car built for purpose, and that's the engine he felt most comfortable with, QED.

And what purpose could we be talking about here? Why, drifting of course. Although there was initially talk of powering through the Time Attack series as well. "The idea to compete in both Time Attack and BDC came about after a team and sponsorship meeting at the Autosport International Show back in January," Steve explains. "The reason behind it was mainly to get the sponsors' names out there in different areas of the motorsport world rather than just focusing on the one sport. But as we started on with the build of the RX-7, it became very apparent that you cannot have a car built to do two completely different disciplines of motorsport, so as we had further discussions and talks we decided to carry on down the route of competitive drifting, as we'd always been very successful at our level." This unwillingness to compromise is something that's ratified by casting an eye over the spec box. If there's one word that this car won't tolerate, it's 'compromise'. No time for it. This is something borne of pure function, and Steve and his team were insistent that this would be a no-nonsense build.

The success of which Steve speaks was brought forth by the team's trusty Toyota Soarer, a hardened battler that brought a lot of silverware and just as much kudos and respect. But it was time to retire the Toyota, the general feeling being that it had taken them as far as it could, and it was necessary to draw up a shortlist of viable and appropriate replacements. "We'd narrowed it down to either the Mazda RX-7 FD or a Nissan S15 chassis," he recalls, "and the RX-7 came out on top simply for the way that it looks." Pretty sound reasoning, I'm sure you'll agree – if you're planning to re-engineer everything under the skin anyway, you might as well ensure that the skin is as alluring as it can be in the first place.

Finding a decent solid FD, however, isn't as



There's extra ventilation in both the carbon fibre bonnet and rear windscreen to allow hot air to escape from the engine bay and rear-mounted radiator setup



easy as one might hope. With production ending 13 years ago, and the oldest examples having blown out a surprising 24 candles on their last birthday cake, the sylph-like rotary loopers have had ample time to rust, degrade, or be wrapped around Armco.

"We didn't want to buy a rotten chassis that would need a lot of welding," says Steve, with impeccable logic, "and neither could we justify taking a completely mint road car and ripping it to bits. Thankfully we landed on our feet with a nice grade four imported number that was brought into the country in 2010. The previous owner had blown the engine up within the matter of weeks and then dry-stored it for four years with the view to turn it into a fast road/track car, but ran out of interest. So as with everything, it hit eBay and we snapped it up." Something of a coup for the team there, then – with the vision of the Toyota straight-six dangling over the project like the Sword of Damocles, a blown rotary was an irrelevance, and they finally had themselves a decent shell to tear into.

Job one was to strip it back to first principles and see what was what. Everything was pulled from the car – the interior, running gear, subframes, every last nut and bolt, as a

principle aim of the build was to make the car as light as possible. "If there was an unnecessary bracket, we removed it," Steve explains. "We were merciless. The shell was acid-dipped to remove all paint and sound deadening, which saved about 50kg. As soon as we were happy that the shell was as pared-back as possible, the custom six-point cage went in, courtesy of SW Motorsport in Manchester, and once we got it back to Diemax HQ we were ready to make progress."

At this point it's worth noting that Diemax Precision Engineering is Steve's family dynasty – a firm that's been supplying bespoke parts to the aerospace and electronics industries for over 30 years. This explains why there's a phenomenal spread of custom metalwork sprinkled throughout the car; the interior, for example, sports a custom switch panel that's a work of art; it'd look at home in a fighter jet, and neatly complements the custom dash holder, fuse box, and various other bits. Engineering excellence abounds throughout the car.

Meanwhile, back at the build, the lads were in the process of dropping that controversial 1JZ into the bay. "It took a great deal of thought, because the rules in the British Drift



1JZ MAZDA RX-7

THE COLD SIDE

There's a custom-made inlet manifold and plenum feeding the boost into the engine. A set of 1000cc injectors supply the fuel

THE HOT SIDE

A single Garrett GT3582R turbo produces 1.5bar of boost and it's attached using a SupraStore custom exhaust manifold. A 46mm external wastegate, made by Precision Turbo, helps regulate the boost pressure

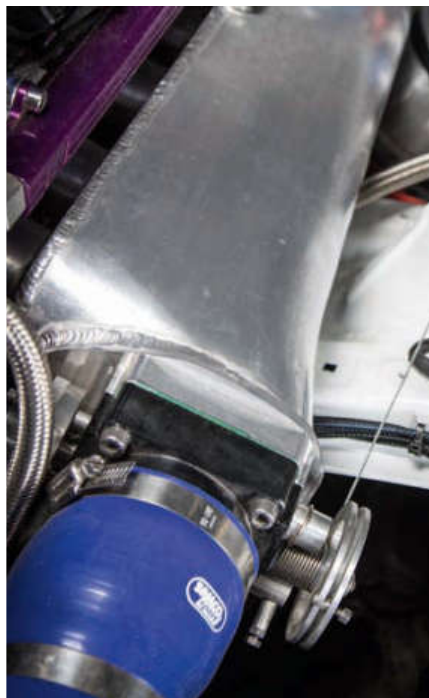
DEEP INSIDE

The 1JZ has been fitted out with pistons by CP Pistons, Tomei con rods and Brian Crower 272 Stage 3 cams. There is also titanium valve springs and caps

Right: It's down to the 80mm Velocity Element throttle body to regulate the amount of air the engine consumes. A good old-fashioned throttle cable is still utilised, rather than a fly-by-wire system



Championship state that cars have to run the OEM subframe regardless of what engine is transplanted. We had to relocate the steering rack completely to make the engine sit as low as it could, as it was just touching the sump. And once we had won that, there were a few further modifications required to make it fit snugly; we managed to get the gearbox mounted up to the original RX-7's mounts in the chassis by CNC machining our own mounts." An involved process, and of course this was by no means a stock 1JZ. As previously mentioned, the internals are fully forged, and it's rocking a vast Garrett GT3582R turbo along with a complex and brain-boggling fuelling system, all looked after by an extremely powerful Link Engine Management ECU that's so clever it could teach Stephen Hawking a thing or two about the cosmos. This motor offers otherworldly performance on an astral level: "With the car only coming in at 1000kg, we had a figure in



DOUBLE RADIATORS

This car runs a rear-mounted radiator, which is fairly common in drifting, but the front rad has also been left in place: "The reason for the rear-mounted radiator was to supply additional cooling to the engine as well as still running another radiator in the front. It's helped the cooling of the car as there is no forward air cooling when the car is in mid-drift revving at 8500rpm for a period of time. We also had to run an electric water pump in the back of the car to aid flow of the engine coolant as it would be too much for the standard water pump to cope on its own."



mind of 500-600bhp, as that feels like a good power-to-weight ratio," says Steve. "We ended up achieving 640bhp at only 1.5bar boost, so there's lots of scope for more – but we didn't want to overstress the engine."

The benefit of having experience in the field of racing, coupled with a dedicated team and the support of sponsors, meant that Steve and the crew were able to fairly scamper through the project, despatching the work in an impressive four months – which, when you consider the amount of labour, development and testing involved is a really quite phenomenal achievement. And it's not as if they were on it all day every day either: "Our biggest problem was that we could only work on the car in the evenings and at weekends, as our business during the day was just too busy to be working on the car," Steve explains. That sort of dedication puts many builds to shame, and makes the fit-and-finish of the FD all the more impressive. Sure, it was

quick work, but by no means rushed.

"Oh yes, it has to look tidy," he confirms. "Not only does the car have to be reliable, it has to look fantastic to help get sponsors' names out there. The car already has a great reputation around the world for its build quality and looks, and a lot of thought went into everything we made to put it together."

Steve admits that there was a learning curve when it came to actually taming the finished product, the difference between this and the old Soarer being like night and day. The comparatively shorter wheelbase makes it much snappier, and there's been a lot of tweaking to the suspension setup, steering angles and general chassis specs, but it's been a fun process. Indeed, an early session at Knockhill served to highlight that the initial decision to focus on drifting rather than trying to build a combined drift-and-grip car was the right one, as it constantly ended up sideways on every corner! It just wants to

Above: The engine is controlled and kept in check thanks to a Link G4+ Xtreme ECU. It's mounted in a bespoke holder on the dashboard



1JZ MAZDA RX-7

drift, it's a genetic imperative.

"Of course, the car wouldn't be what it is today without the help of the sponsors," says Steve, warming up as if in readiness for an Oscar acceptance speech. "Diemax Engineering of course, Link for its incredible engine management, HEL for all the brake, turbo and fuel lines, and SamcoSport for its silicone hoses. There's also Aerokit for helping make the car look the way it does (it's the only body kit we've ever had that just bolted straight on without need for adjustment!), Rota for the wheels, Yellowspeed for the brakes, MeisterR for the coilovers, Advanced Clutch Technology, and of course Titan Motorsports in Florida."

Pheh. Sounds like after that epic journey of bespoke craftsmanship, the project's finished and ready to rock, doesn't it? Ah, but people like Steve can't sit still for long: "We're already planning the next round of upgrades," he intimates. "I still want to get a 2JZ in there, with at least 800bhp, and we're working with Matt Cowley at Team Japspeed to design a complete front steering lock and suspension kit to give us up to 70 degrees of lock..." And it seems like this is the start of a very long list.

The game plan was solid from the start, and the guys have done sterling work in pulling together a build that's as formidable as it is effective, and all the while they've been kicking dust in the eyes of the haters. Sure, it's a once-rotary-powered Mazda that's had its very essence ripped out and replaced by a Toyota piston engine. Why the hell did they do that? Because race car. That's the only justification they're going to give you 🌸



Yellowspeed Racing supplied six-pot calipers are fitted both front and back, biting on 330mm discs



Engine & Transmission: Fully forged Toyota 1JZ-GTE straight-six, lightened and balanced crankshaft, CP Pistons, Tomei con rods, ACL race bearings, full ARP Stud Kit, Brian Crower 272 Stage 3 cams, Brian Crower titanium valve springs and caps, lightweight shimless bucket conversion, Brian Crower oversized valves, Garrett GT3582R turbo, 46mm Precision Turbo wastegate, SupraStore custom turbo manifold, custom inlet manifold, 80mm Velocity Element throttle body, Mojo Performance coil packs, 1000cc Injector Dynamics fuel injectors, Aeromotive A1000 fuel pressure regulator, Aeromotive lift pump, Aeromotive A1000 inline fuel pump, Aeromotive 100-micron race fuel filter, Aeromotive 40-litre foam-filled tank, front and rear Mishimoto 75mm radiators, Davis Craig electric water pump, Mishimoto R-Line 100mm intercooler, Mishimoto 19-row oil cooler, Link G4+ Xtreme ECU with Race Technology Dash2Pro, Link engine management sensors throughout with fuel ethanol content sensor, brand-new V161 manual gearbox, Advanced Clutch Technology HD/race six-puck clutch with solid lightweight flywheel

Chassis: 9x17" Rota Titan with Maxport RB5-F3 tyres, MeisterR Zeta R coilovers, Yellowspeed Racing 330mm six-pot big brake kit front and rear, HEL Performance braided lines throughout

Exterior: Aerokit Spec-X James Deane wide body kit, 400mm-high carbon-wrapped Aerokit spoiler, Concept-7 headlights

Interior: Custom Cobra Imola Pro Race seats, Schroth Westfield II harnesses, Diemax Engineering custom switch panel, fuse box and dash holder, Lifeline automatic fire extinguishers, custom six-point roll-cage by SW Motorsport in Manchester

Contacts/thanks: Huge thanks to my two main sponsors for this year, Diemax Engineering Ltd and Link Engine Management who went 50/50 on the car this season. Thank you to all my other sponsors who have helped by supplying all other components for the car, and also for keeping it running the way it has all season. Ewan Turnbull (ewan-auto@hotmail.com) for the 100+ hours that he put in on a full ground-up custom rally-spec wiring job on the car, it is an absolute work of art. Colin Taylor for flying up from Kent many times to help us build this car. Mark Luney for the countless times he has come over from Belfast to help with many late nights; his expertise and contacts have helped to get the car the way it is now. And last and by no means least, my eternal thanks to my mum and dad, Peter and Phyllis Donnelly, and my ever-supportive girlfriend, Hannah Waugh, who have followed me all over the country to be there and support me for me throughout it all

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GETTING DIRTY



McRae's Rally New Zealand Subaru
Legacy still looking fantastic



Castle Combe's Rallyday is a great way to keep up-to-date with the bonkers, anti-lag-infused world of rallying. And this year was no exception...

Words and photos: Sam Preston



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If you ever need reminding just how important Japanese cars have been to the worldwide rallying scene over the past handful of decades, heading to Castle Combe's Rallyday in September is certainly a good place to start.

This year celebrated the popular event's 15th anniversary, with some seriously famous cars and drivers making the pilgrimage to the Wiltshire circuit as a result. We popped by on the beautifully sunny Saturday to see what was new...



Restored Repsol Celica brought back a lot of rallying memories



CASTROL EDGE FEATURE STAGE

The normally free-flowing, high-speed circuit had been transformed into more of an obstacle course for the day, with cones and bollards creating a seriously technical course which involved both the smooth Tarmac of Castle Combe and even some of the grass to the side of the track.

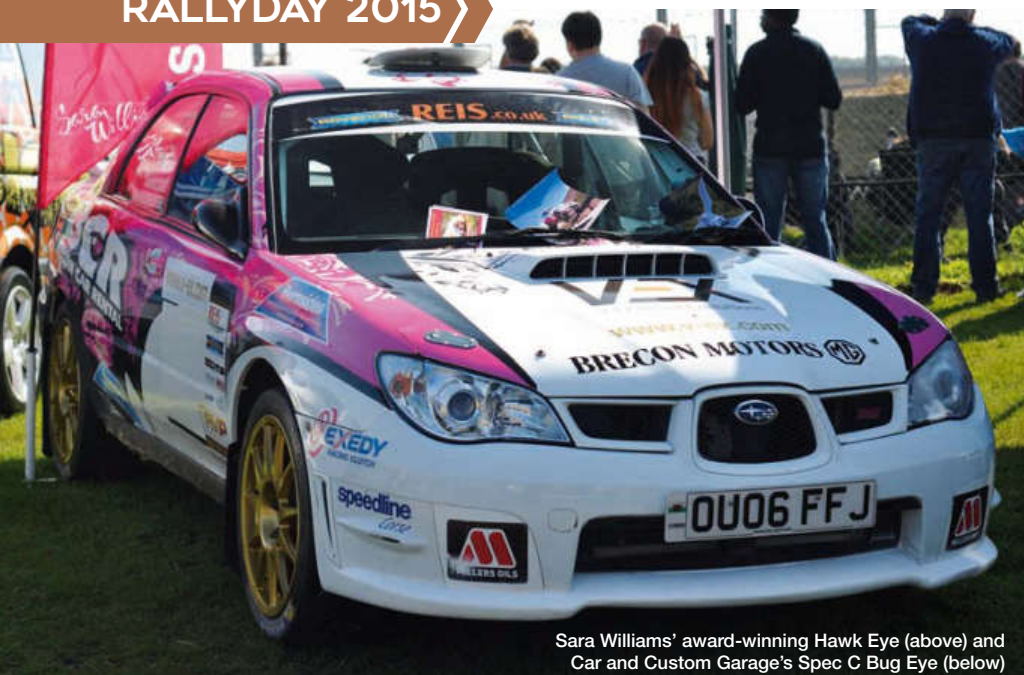
The Feature Stage was the main event which ran throughout the day, attracting cars such as iconic Eighties Group B legends, along with their equally as legendary drivers, to tackle the stage.

Finnish 1981 WRC world champ and all-around good guy Ari Vatanen was undoubtedly the highlight of this event, piloting his very own 1976 British Rally Championship-winning Mk2 Ford Escort around the track and providing some remarkably historic viewing as a result.

The Japanese cars didn't fail to disappoint, though. The recently restored Warner Lewis ST185 Celica GT-Four looked deliciously retro with its Repsol livery, as did the ST205 WRC Celica of Stuart Ingham, also fresh out of the bodyshop and complete with the iconic Castrol livery.

David Higgins even took a piece of automotive history out for a blast halfway through the day – Colin McRae's very own 1997 WRC Subaru Impreza, which looked and sounded just as spectacular as we remember.





Sara Williams' award-winning Hawk Eye (above) and Car and Custom Garage's Spec C Bug Eye (below)



AWAY FROM THE TRACK

The great thing about Rallyday is that the action isn't confined to Castle Combe's regular circuit. Several grassy sections flanking the track are also transformed into mini off-road stages of various intensities. Our favourite was the Cooper Tires 4x4 Rally Raid Zone – taking up much of the south side of the venue and stepping things up a notch in terms of gradient and ground surface conditions.

Another highlight of the day was walking around the vast paddock area, which was crammed with car clubs and their impressive fleets of cars. One thing that struck us fairly early on was the sea of Subaru Imprezas taking up the space available. Easily the most common car on display, it's amazing to see what a big part of rallying history these cars have had.

We took five minutes of event manager Tom Davis' time before leaving to get his verdict on the day: "It was the first Rallyday to be run by a brand-new organising team at Castle Combe and we are delighted with the outcome; the quality of the cars and exhibits, the profile of the stars that attended and the number of people who visited the show." 🌟



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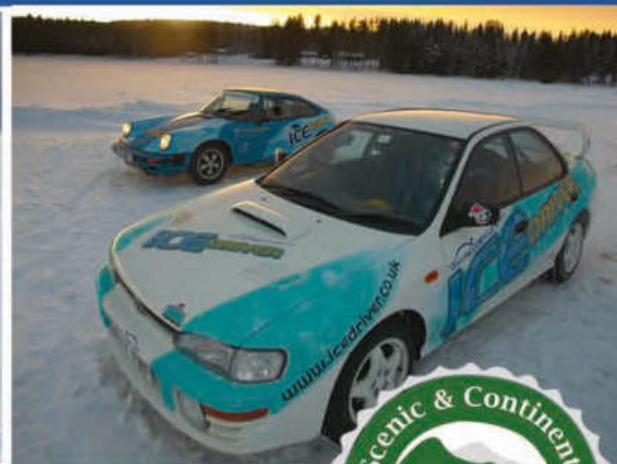
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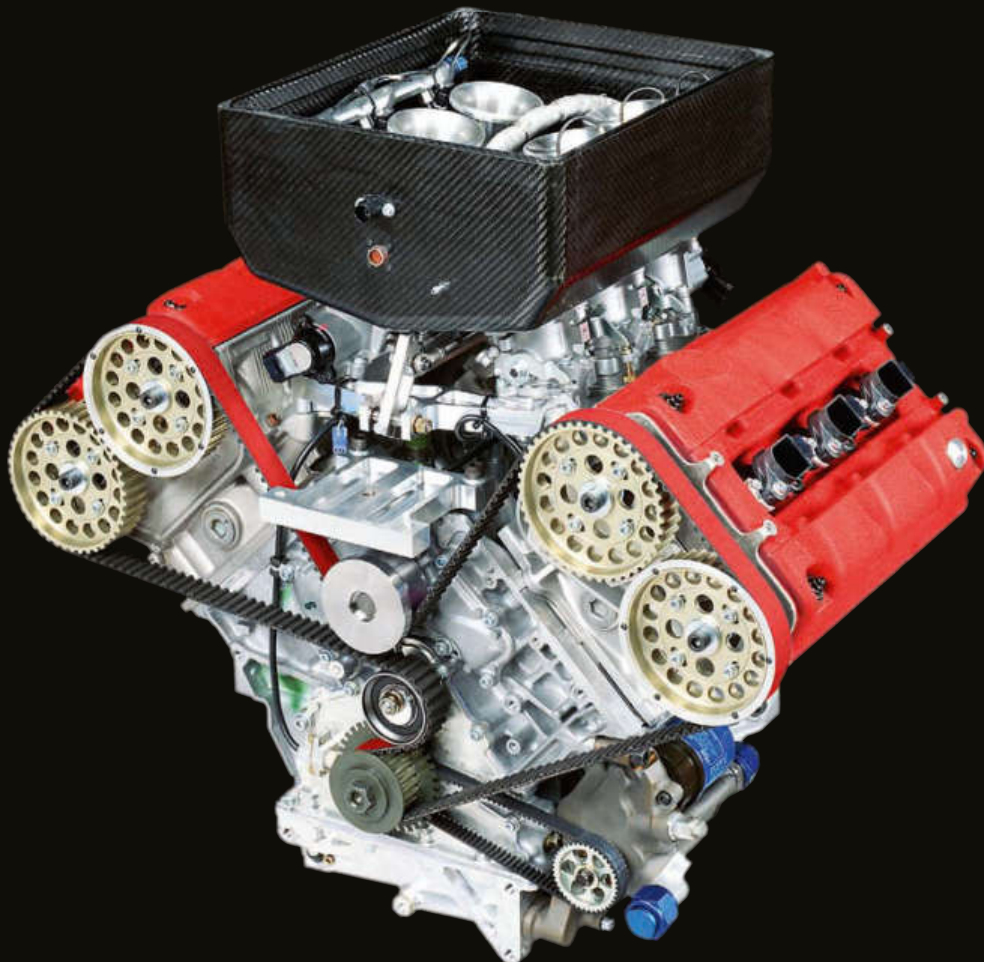
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THE DEVIL'S IN THE DETAILS

Just another Rocket Bunny BRZ? Don't let the steroid-injected exterior fool you – Risky Devil's supercharged Subaru means serious business.



SUPERCHARGED BRZ

There's no denying the BRZ sits well on those Rotiform wheels and looks good with that Rocket Bunny kit. The Jackson Racing supercharger kit ensures it's got the bite to match the bark



The Recaro 'confetti' seats are a rare addition in a car such as a BRZ but they suit it perfectly

CHARGED UP

The name Jackson Racing my well ring bells for some of you as a number of years ago the American-based company became popular on the Honda scene for producing a complete bolt-on supercharger kit using a replacement cast alloy inlet manifold. Attached directly to it was an Eaton type blower, sending boost straight into the cylinders. The easy-fit kits gave instant power increases but did tend to suffer from high charge temperatures. Things have moved on since those days and Jackson Racing now produces complete supercharger kits using more efficient Rotrex blowers. This has allowed the fitment of an additional intercooler to reduce charge temperatures before boost reaches the engine.





WORLD FIRST: AIR LIFT 3H MANAGEMENT

With performance, style and a driver who isn't afraid to push the limits, Fish's Subaru BRZ was the perfect vehicle to showcase Air Lift's new 3H management system.

Unlike other air management systems, Air Lift 3H monitors both height and pressure combined, meaning your car can achieve the right height without radical differences in pressure – a must for changes in load or driving conditions such as hard cornering.

Using newly developed sensor arms that connect on every axle, Air Lift 3H boasts Anti-Cross Loading and Axle Equalisation to provide the ultimate ride quality in all driving conditions. What's more, the Air Lift system comes loaded with five custom presets to quickly adjust height and pressure at the push of a button.

The final party piece is the Air Lift Performance 3 wired controller. This full colour controller is cased in aluminium with a soft touch rubber keypad, and allows multiple options including the option to automatically rise on start, integration with your iPhone (using the free Air Lift app) and even a Show Mode which allows the suspension to be controlled via a smartphone even when the car's engine is switched off.

Fish's car has performed faultlessly using the 3H technology and is available to buy from October. Visit www.airliftperformance.com/height-plus-pressure/ for more information.



Wide arches are well and truly back in fashion, and it doesn't take much searching to realise why. Liberty Walk, RAUH-Welt Begriff and Sarto Racing constantly break the internet with the latest super-wide creations. From Honda's unicorn NSX to the latest Italian supercars, nothing is spared from the wide-arch treatment. And it's all thanks to a man called Kei Miura, otherwise known as Mr. Rocket Bunny Japan.

There's a fundamental reason why this style is so popular, though. It looks *seriously* cool! Rather than just flaring arches or bolting on 'blister' fenders (traditionally associated with drifting), Miura-san took a much more race-inspired approach with his creations. Works-style cutaway arches revealing semi-slick tyres, ducktail spoilers replacing BGWs and rivets used throughout all scream motorsport. Before long Miura-san's style was known simply as the 'Rocket Bunny look', and unless you banned yourself from all social media you couldn't avoid seeing it.

Being the JDM flavour of the month, it didn't take long for Miura-san's creations to start appearing worldwide. But unlike his own complete car builds, many companies and car builders worldwide focused solely on

being the first to debut a new Rocket Bunny kit – creating maximum impact visually, but lacking in just about every other department. Your car's exterior should be one element of a build, not the only element.

This statement especially rings true with a group of Chicago-based drifters known as the Risky Devils. Bound by a mutual love for going sideways, Richard 'Fish' Fisher and the rest of the Risky Devils live for Japanese car culture. Don't think they're all about style over substance, either. Fish and the Risky Devils aren't afraid to use and abuse their cars both on the street and track. They run low, they look good, and they're driven on the limit at any given opportunity. Despite this gung-ho approach, authenticity remains the key for every Risky Devil build. Each upgrade Fish has made serves a purpose – be it improving looks or boosting performance – and once you look past the exterior you'll see one of the most comprehensive BRZs on the planet right now...

There's no getting past that exterior. It's safe to say Miura-san's Version 2 BRZ kit is one of the best he's every produced, and the epitome of what Rocket Bunny stands for. But look a little closer and you'll notice Fish hasn't opted for the traditional RB ducktail. Instead, he's opted for a smaller option from

SUPERCHARGED BRZ



Power: Approx. 280whp

Engine and transmission: FA20 boxer, 12.5:1 compression ratio, Jackson Racing Stage 2 supercharger kit with air intake and intercooler, Koyo radiator, Go Fast Bits pulley kit, Tanabe Medallion exhaust, Jackson Racing ECU reflash, Setrab oil cooler, Competition Clutch clutch kit and flywheel, Tomei 2-way LSD

Chassis: 9.5x18-inch and 11x18-inch Rotiform LHR fitted with Dunlop DZ101 235/35R18 and 265/35R18 tyres, Air Lift Performance air-ride, Air Lift top mounts and camber plates, Stance adjustable lower control arms, Whiteline front and rear sway bar with sway bar end links, Whiteline bushes throughout, Ferodo DS1-11 brake pads, DBA 4000 discs, StopTech stainless braided lines, Motul RBF600 fluid

Exterior: TRA Kyoto Rocket Bunny Version 2 body kit, Leg Sport rear spoiler, LED tail-lights

Interior: Recaro seats with custom rails, Key's Racing by ATC 330mm wheel, HKB snap-off boss, Circuit Sport Delrin shift knob, TF-Works floor mats



Fish opted for a Jackson Racing Stage 2 supercharger kit giving a much needed horsepower boost



Leg Sport in Japan – a design Fish preferred due to the overall shape and the perfect addition to separate his build from others.

Take a look inside and Fish's love for JDM culture is even more apparent here. From the Key's Racing steering wheel (produced by professional Japanese race car driver Takayuki Kinoshita) to the retro Recaro 'confetti' seats with matching chequered floor mats – Fish hasn't just ordered the latest parts for the sake of it, he's carefully chosen both new and old options to create his perfect road and track BRZ.

In standard trim the BRZ isn't blessed with huge horsepower – it's one of the platform's selling points, but also once of its down sides for drifters like Fish who are used to 300+bhp SR20s. With the FA20 motor still relatively unknown at the time of purchase, Fish opted for a Jackson Racing Stage 2 supercharger

kit giving a much needed horsepower boost without the complexity of adding a turbocharger. Knowing full well the BRZ would be getting some serious use, Fish added a Setrab oil cooler, Jackson Racing intercooler and Koyo radiator to keep things cool. With Jackson Racing flashing the OEM ECU, the end result was 280whp – a power increase of nearly 50% over stock, more than enough to keep the rear wheels spinning.

Looking at the BRZ's stance, you'd be forgiven in questioning how such a low car manages to drive... let alone drift. The only explanation needed comes in the form of Air Lift suspension. Based in Michigan, just a few hours from Fish, Air Lift Performance is all the rage right now thanks to its 'best of both worlds' approach to suspension. Drive or show your car super-low, and at the push of a button you've got plenty of clearance for even

the biggest speed bumps around town.

Fish opted for Air Lift's Performance Threaded setup – a system that features a bag-over-body construction (imagine a traditional coilover and replace with spring with an air bag) along with camber adjustable top mounts and damping-adjustable monotube dampers. The perks of this system means you can not only drive low, but also setup your car's handling to perform on the street or track with a few simple clicks of the adjustor.

Fish's BRZ is the end result of years of previous tuning. Using tried and tested parts from around the world he's created his ultimate drift-ready BRZ. From the outside it may just look like another Rocket Bunny creation but give him half a chance to unleash the power and you'll know this car means serious business 🌸

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JAE 2015: NEW START AT NEWARK

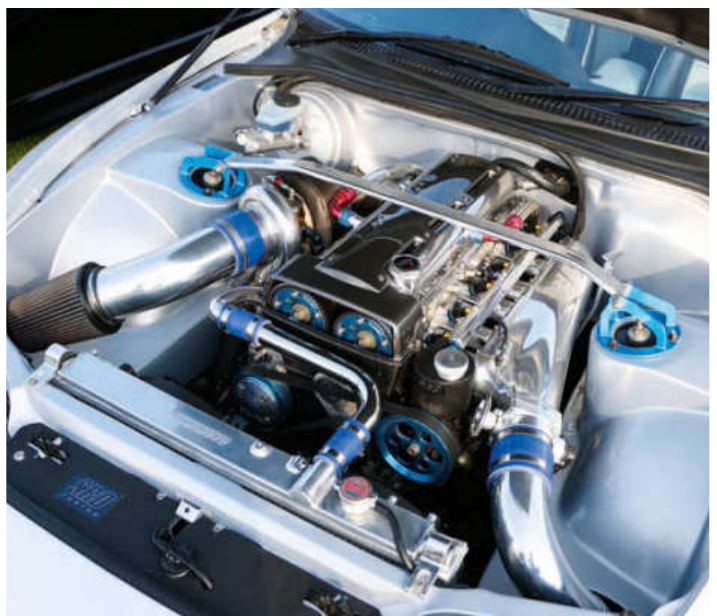
It was all change for the JAE show this year, with an all-new venue and some fantastic new activities making it one of the most fun yet!

Words: Sam Preston and Chris Presley
Photos: Chris Presley

September 2015 marked a fresh start for one of the most important Japanese car shows of the year – Japanese Auto Extravaganza (JAE) – a full-weekend festival which is seen by many as the perfect finale to the summer show season. This time around, organisers uprooted the foundations from the show's long-term home of Northamptonshire's Wicksteed Park to begin a new chapter in the scenic grounds of Nottinghamshire's Newark Showground (around one hour's drive north of the old venue). To mark the change, the vast amount of car clubs involved in organising JAE pulled out all the stops to make this year one to remember.

We're sure you're all familiar with the JAE by now. But if you're not, it's one event you should certainly consider for next year. The four-day festival stands out from other shows as it revolves strictly around one theme: allowing Japanese car fans to have as much fun as possible. This means that things like chock-a-block track days are replaced with camping, great food and drink and an even greater atmosphere, both day and night! As we arrived on the Saturday, we immediately knew we were in for some serious fun after spying some familiar, friendly faces alongside some spectacular Japanese cars...

It was only after catching up with Nigel, one of the JAE directors, that we really learnt the scale of how large JAE has now become. With over 100 clubs and 1000 people through the gates on the Thursday alone, Nigel said the team was set for one of the busiest weekends on record. Luckily, then, Newark Showground offered up tonnes extra space to accommodate all the JDM fun...





Some iconic old and new Jap cars made an appearance



GETTING BEHIND THE WHEEL

At JAE, it's not all about sitting around your camp and checking out cars. Far from it, the weekend has always been known to offer activities that are sure to appeal to pretty much everyone. Along with the regular exhibitions such as the Crashman Stunts team, RC car racing, fancy dress parades and sporting activities which form the backbone of JAE, this year saw the introduction of a couple of slightly more hands-on exhibits.

Firstly, the Learn2Drift team were drafted in with their full-blown drift cars to give those who were feeling brave enough a taste of how to get sideways. And off the Tarmac, organisers made full use of the venue's off-road track facility to offer affordable off-road slots for those with Japanese 4x4s. The amount of punters who brought their jacked-up monsters along was staggering, with some awesome Toyotas, Mitsubishiis and Suzukis tackling the course.

4x4s of all shapes and sizes took to the challenging off-road track





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CARS 'N' CLUBS

The massive amount of clubs from across the country and beyond really delivered the goods this year in terms of the quality of the show cars on offer. Some stand-out clubs included the Shootall Ballers who had some truly epic builds on its stand, along with the usual array of goodies on the Milton Keynes-based JDMK club. We even spotted a Honda Civic Shuttle that was mid-way through a twin-charged engine conversion build!

But the single car which blew us (and most of the other showgoers) away had to be the 100% genuine Group A JTC HKS R32 Skyline GT-R which had recently been shipped over from Japan for a tour of Europe. Proudly wearing its iconic oil slick livery, this multiple race-winner was unsurprisingly stunning in the flesh. It was no surprise to see this beauty win the 'Car of the Show' award, then.



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Above: Steve's RX-7 is rocking a rather unusual engine swap under its bonnet



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If the thought of a whole year's wait before the next instalment of JAE is too much to bear, fear not, as the team will be running its annual pilgrimage to Le Mans next summer, with lots of familiar faces already confirming attendance. For more, check out the website.

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STARLET FEVER

When it comes to cars, how do you define 'old school'? We think you'll agree, Max's super-retro '79 Toyota Starlet seems to pretty much single-handedly nail it...

Words: Sam Preston
Photos: Stephen Hall



RETRO STARLET



It's fair to say that young Max Fleckney's early car ownership record doesn't match that of the average person. As an accomplished Autograss racer and qualified mechanic, he's one of those guys that's most comfortable dropping Red Top Vauxhall engines into race buggies over a weekend rather than performing menial tasks like changing the oil on a Ford Fiesta.

When he's not out racing, his taste in road cars seems to have followed a similarly interesting route, too. Let's have a quick look at what Max has acquired the logbooks of so far: a Robin Reliant ("I covered 5000 miles in that in under three months, but thought things were getting a bit too dangerous after I tipped it over..."); a Ford P100 pick-up; and, perhaps most importantly, a second-generation Toyota Starlet similar to the one seen here ("I sold it before I could even legally drive, which I was absolutely gutted about afterwards!").

Sensibility struck hard, though, and Max sadly came unstuck from the retro theme he had going on a year or so ago, after he bought a 2007 Vauxhall Astra van. Although undoubtedly a very practical decision, he instantly felt that something was missing from his car life and was soon on the hunt for his next fill of old school motoring thrills. And this time the choice was clear: he had to fulfill his dream of actually running a classic Starlet. "After seeing one at a show, I knew I had to get another," he admits.

The humble 60 Series Starlet has become red hot property recently. With prices of the go-to choice for a retro Toyota, the Corolla AE86, now rising quicker than the morning sun, people are understandably looking elsewhere for their slice of retro Toyota pie. And with these dainty hatches offering an almost ludicrously low weight figure, rear-wheel drive setup (the last Starlet with this

layout), and simple, throaty carb-fed engines, we can see why they're becoming so popular.

Max's search for another Starlet of this shape wasn't as easy as he'd have hoped, then. "I'd been tipped off about this one from a mate I know through my interest in Toyotas. It was under an hour from my house, too, so I had a feeling it was going to be too good to be true!" he tells us. Upon inspection, the completely standard car had been garaged for the last three years of its life, with the bodywork appearing to be in a surprisingly good state of affairs for its age. Although only sporting a puny 1.0-litre motor, Max could almost smell the potential that this car offered, so struck up a deal there and then with the owner.

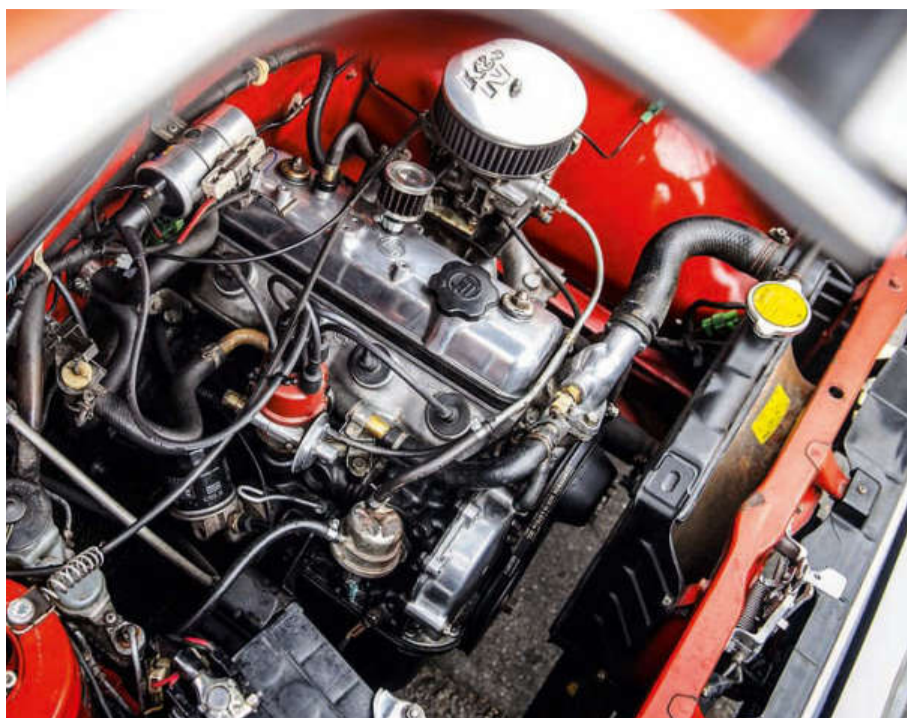
After the car was crawled back to the garage which Max and his dad run under its own power, it was put straight up for an MoT, which it surprisingly passed with flying colours. As this would be the car which Max used on a daily basis (he has a lot of faith in old cars), the plan of attack was to keep it under a roof over the winter while it was made fighting fit and able to rack up the miles without hassle.

As most parts on the car proved to be original, it was clear that some overhauling was in order to bring it into the 21st century. First up was the suspension, which Max stripped down and found to be in a pretty sorry state. Finding a new suspension system in either factory or performance trim proved nigh-on impossible, with Max eventually heading to the guys at Weymouth-based Shocktec for the answer. Famous for creating custom suspension setups for virtually any car, Shocktec used the ropery old parts as a basis for a one-off performance coilover kit for Max's Starlet. This included shortening the front struts and replacing the pistons. The end result was a set of gleaming components





**“I use it every single day
and it’s so reliable”**



1300cc '4k' engine produces over 100bhp but Max is still after more power...

RETRO STARLET

Performance: Approx 110bhp

Engine: 1290cc Toyota 4K eight-valve engine, lightened and balanced, race cam, competition valve springs, rejetted carburettor, custom large-bore exhaust system with Ashley centre section and Vauxhall Corsa B back box

Transmission: Original four-speed gearbox and rear differential, lightened and balanced flywheel

Chassis: 7x14" (ET0) rebuilt Advan A3A three-piece alloy wheels with polished lips and gold centres, 155/55/14 Federal Formoza FD1 tyres all-round, standard brakes, custom Shocktec refurbished coilover suspension system with shortened front struts and new pistons, T3 camber plates

Exterior: Original Vermillion red paint with rechromed accessories

Interior: Original semi-leather interior, Nardi Torino perforated leather steering wheel

Contacts/Thanks: My dad, Ben and the Shocktec team (www.shocktec.co.uk), Tom for the machine polishing, all my friends that called in on my late garage nights (and my mum for all the food!), and finally, everyone who has helped me with parts



"I actually bought the car to fit the wheels!"





Delicious vintage interior topped off perfectly with a Nardi wheel



which wouldn't look out of place on a full-blown race build.

What wasn't so impressive was the standard engine. Sporting a not-so-blistering 47bhp from the factory, the spotlight was next aimed at sourcing something a little more substantial. "I needed something with a bit of go, and knew that the 1.3 versions of the original engine dropped straight in," Max says. Putting the feelers out at an Autoglass event (the classic Starlet has been a weapon of choice in this discipline for many years), he eventually struck gold – a fellow racer was willing to part with a very healthy example of the 4K engine in question, complete with lightened and balanced internals and a re-jetted carb which would hike the power levels up to over triple figures.

So, with a sensible and solid drivetrain sorted (you can tell he's a mechanic, can't you?), Max could begin undertaking his vision of how he wanted the car to look. This process had begun some time ago though. In fact, before he'd even bought the car. "I actually bought the car to fit the wheels!" he laughs. Ah, yes. Those wheels. Perhaps the defining modification of the whole car, their period-perfect style complementing the exterior just marvelously. The highly sought-after Advan A3As made an impression on Max as soon as he copped them after a mate bought them in a rather rough condition with the intention of giving them a much-needed refurb. It fell to Rusty Rims in Essex to undertake the rebuild, and the gleaming rims that resulted only increased Max's 'want' level. "As soon as I had bought the car I was on the phone to my mate telling them I'd buy them," Max continues.

With the three-spokes on and the car now sitting low and wide, Max decided it was wise to keep things fairly simple on the outside, as it looked so good as it was. So aside from polishing off the remains of some thick black

underseal that the previous owner had overzealously applied and sourcing some shiny new bumpers to match the gleaming wheels, things have remained fairly original.

Following three months of being hidden away in his garage followed by the biggest reveal since the one seen on *Chitty Chitty Bang Bang*, Max hit the British show season this year in style. Like we needed to tell you that – we're sure you've spotted it at least one event you've attended this year – it's a pretty hard car to forget, after all! And although you could probably count on your fingers the amount of these Starlets left on UK roads, it doesn't stop Max racking up the miles. "I use it every single day and it's so reliable," he reveals. "I recently drove it to two AE86 shows in Ireland, and must've driven past at least 30 broken-down modern cars on my journey. If something goes wrong on my car, it's so easy to work on, I can tell what it is straight away."

After watching Max display the nimbleness of this flyweight's chassis in the form of a cheeky burnout followed by some seriously impressive cornering, talk turns to the future. "I've got a 4A-GE engine from an AE86 waiting to go in over the winter," he tells us. This will form part of 'stage two' of the Starlet's build, with an aimed 200 naturally-aspirated horses powering the rear wheels by the spring. But what to do with all that power? "I might do the odd drifting event... I've seen cars in better condition than mine doing it, so why not?!"

We're not sure exactly what it is about Max's hatch that makes it so special. Perhaps it's the compact, angular bodywork that hints at the car's equally-as-respected younger cousin, the AE86. Or maybe it's the Seventies checked interior with the beautiful patina-effect wear and tear marks... But one thing's for sure, this is one of the coolest cars we've ever featured, inside and out. Can we have it, please? 🌟

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Eibach Suspension Enhancement Kit	-	-	-	£273.00	£413.47	£413.47
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Ohlins Coilovers	-	-	-	-	-	-
Twin Springs	£144.00	£168.00	£180.00	-	£132.00	£156.00
Twin Street Flex Coilovers	£936.00	£840.00	£732.00	-	-	£840.00
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EBC Redstuff Front Pads	£82.24	£122.69	£84.98	£102.80	-	£75.61	-
EBC Yellow Front Pads	£85.99	£157.32	£87.36	£106.81	£113.24	£89.35	£73.99
EBC Redstuff Rear Pads	£51.13	£88.67	£60.30	£60.31	-	£43.45	-
EBC Yellowstuff Rear Pads	£69.94	£131.20	£66.27	£66.27	£153.68	£50.63	£50.74
Tarox Strada Fast Road Front Pads	£94.80	-	£78.00	£78.00	-	£118.80	£106.80

Brake Discs

	Honda Civic Type R FN2	Mitsubishi Evo 10	Nissan Skyline R34	Nissan GTR 35	Subaru Impreza 07-	Toyota GT86
Black Diamond XD Front Discs	COMING SOON	-	£450.76	-	£153.89	£151.52
Black Diamond G12 Front Discs	COMING SOON	-	£440.84	-	£126.61	£173.70
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EBC Front Discs	£232.43	CALL	£297.72	CALL	£326.41	-
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PART 4: RETURN TO LYDDEN HILL

With the weather varying massively across the weekend, the BDC's return to Kent's Lydden Hill for the penultimate round of 2015 was filled with all the excitement you could ever hope for...

Words and photos: Fred Wonnacott



For the second time in 2015, the BDC headed to Lydden Hill in Kent. The track is both a favourite and a nemesis for a lot of the drivers due to its camber, deep gravel traps and undulating layout.

A sunny Saturday began with the judges laying out a good clockwise circuit, looking to promote close battles and lots of action. The first two clipping points were located on the outside of turn one followed by a transition to clip three on the approach wall at the hairpin. Then there was an inside clip for the hairpin

itself, exiting on to another wall run for clip five and then inside clip six for the fast right-hander. It finished at clip seven right at the exit of the corner. This one caught a few drivers out during the day with plenty of flying gravel from those pushing hard.

This round saw the organisers run a different format to the norm. Saturday was a full day with long practice sessions for both the Pro-Am and Pro classes, followed by qualifying for both in the afternoon. This format change meant all the battles took place on the Sunday...



2015 BRITISH DRIFT CHAMPIONSHIP

Pro-Am class practice and qualifying

Practice went relatively smoothly for both classes with only a few minor problems for drivers, most related to the weather with 30° heat causing a few cooling issues. In Pro-Am practice, Mat Cusens suffered with more technical gremlins as his gearbox failed after only a few runs leaving him only third gear to finish his day with. With the drivers comfortable with the track layout, qualifying began with everyone getting two runs to impress the judges and earn that place in the top 32.

Stephen Donnelly ran well in the FD RX-7 securing a sixth place spot ahead of current Pro Am leader Adam Simmonds in his V8-powered Slide Motorsport R33 Skyline who took seventh. Louis Geldart hot off his round three win at Teesside placed fourth with Fraser Stark and James Matthewson taking third and second respectively. Top qualifier would be Nick Brady in his Skyline with a solid 86.8 – a full nine points clear of second place.

Pro class practice and qualifying

Next up the Pro class came out for qualifying. Championship leader Jack Shanahan got a little hotter than most when his rear quarter caught fire. Luckily the quick response by track marshals and drivers not only saw the fire put out with no major incident but the Shanahan team had Jack back before the end of the session to qualify 13th with an 81.3. Mike Marshall in the E92 M3 showed the same car control and hard aggressive style that took him to victory over Mark Luney at Teesside. Lydden Hill is Mike's local track so he was able to really push hard with the home advantage. A 91.2 score saw him take top qualifying spot ahead of Brain Egan in the AE86 with 89.3 and Paul 'Smokey' Smith's 88.8. Looking at the scorecard there's currently only five points separating first and seventh place. This alone tells you how close and competitive the Pro class is. Other notable qualifying places went to Richard Grindrod who took 15th with a 76.8, Mark Luney in 12th with 82.0 and Simon Perry in the Lassa R35 GT-R with a solid 85.5 earning him eighth.

With a long hot day of pushing their cars and skills to the limit, Saturday night was a chance for the drivers to relax or repair and refine their setups ready to do battle, although some teams were concerned about the weather reports which predicted a chance of rain for Sunday.

Sunday began with cooler temperatures and overcast skies. The chance of rain was high and Lydden's reputation for being very difficult and slippery was on everyone's minds.

Pro-Am class battles

With the track still dry the Pro Am battles began and championship leader Adam Simmons had a good start, first beating Jamie Owen to go on to the top 16 and then team-mate Matt Stevenson. The Slide boys didn't have a smooth run as going into clip two, Matt misjudged the entry speed hitting the back of Adam – sending them both deep in the gravel to wait for a recovery truck. Luckily both drivers took it with a smile and

the cars were undamaged. When they re-ran the battle it was Adam that took the win.

Ryan Pothecary came through qualifying in a surprisingly low 28th place but then beat Tony Walker to progress to the top 16 and on to face Skid Risk's Ryan Toporowski. Topo' was running well with big smoke but Pothecary took the win. Familiar 'hard charger' Fraser Stark in his E30 Touring lived up to his name, going flat-out against Tom Marshall's new 1JZ-powered PS13 build and then David Egan's 86. Fraser took both wins then went all out against Steven Donnelley with the E30 and RX-7 both going to the limit of the track and running on each others' doors. It was Fraser who went on to that top four spot by the end.

Nick Brady was the last of the top four. Nick was on amazing form seeing Lewis Baker, Ian Rutherford and Ben Mellish all knocked out by the pink-and-white R33.

First of the final battles to go down was Brady versus Stark. Both drivers were going as hard as possible but this led Nick to have a few mistakes in both his lead and chase runs, dropping a wheel off track, which meant that Fraser Stark took the final. Nick Brady then faced Ryan Pothecary for third place but another mistake in the same place at clip two saw Nick buried deep in the gravel, handing the podium spot to Ryan.

So that meant the Pro Am final comprised Adam Simmons in the Slide Motorsport R33 against Fraser Stark in the E30 Touring. Fraser had the lead run first, laying down a safe and solid line while keeping a small lead out on Adam. Then in Adam's lead run, both drivers were on-line and going hard but he couldn't pull away from the E30 and Fraser kept close and mirrored Adam on all clipping points. So it was Fraser Stark that had the top spot on the podium winning Pro Am for this round.

Pro class battles

After a quick lunch it was time for the Pro battles. But the heavens decided to open and the lovely British rain came down quickly, turning the rubber on the track from Saturday to what felt like grease, ready to catch everyone out. Saturday's incident didn't seem to phase Jack Shanahan as he came out strong in the slippery conditions, taking a solid win over Dan Firmager and then knocking out Rhys Gamble who had been enjoying the wet track, taking comfortable and very sideways wins over Jordan Patton and Mark Lappage.

Wesley Keating was a man on a mission battling hard beating Martin Richard and Marc Huxley. The very bright orange LS-powered BMW of Richard Grindrod was up next and he gave Wesley a good fight with both drivers finding the wet conditions tricky, especially keeping together around the steep hairpin. It was Keating who took the final win here.

Team Falken's Matt Carter was another man who seemed to be loving the slippery surface, piloting his R32 Skyline through some amazing chase runs, right on his opponent's door. Matt knocked out Jody Fletcher, Luke Woodham and Team Japspeed's 2014 champion Shane O'Sullivan.



Top qualifier and local man Mike Marshall had a good day, first taking out Shane Lynch who was driving the Japspeed Lexus due to his new 370Z not entering the BDC this year. Jay White was next to fall to Marshall's purple E92, and finally he knocked out Adam Weedon, who had been driving extremely well in the S14, to take him in to the top four.

Kicking off the top four we had an all-Irish battle: Jack Shanahan against Wesley Keating. Wesley had the lead run first with Jack right up on his door at each clip. Jack's lead run saw him initiating very early at the clip one entry. This let him pull a good length gap ahead of Keating and he kept it there all the way to the finish and a place in the final.

Next up was Marshall and Carter to fight for the other final spot. This was a good battle with Marshall leading first. Carter had the R32 up on his door right from the start. They stayed tight through every clip hitting the line the



Luney leads the way for Lappage



The Pro Drivers on the podium



Nick Brady wins Aford 'HarAford 'Hand Charger'

judges wanted. Back to the start and Carter led and this time he managed to pull a gap out on Marshall coming through clip two. In a fight to keep up, Marshall tried to find a shorter line and carry more speed to get back on the Falken Skyline's bumper but this left a shallow angle which proved not quite enough to catch Matt who won and went on to the final.

Mike Marshall stayed on the start line and ran against Wesley Keating for the third place podium slot. It was a good run from both drivers but Wesley dropped two wheels off track at clip seven in his chase run and with the rain and greasy track he couldn't quite make it up on the lead run, so it was Michael Marshall who took third place.

So the Pro final lined-up as Jack Shanahan in the slightly singed S14 against Matt Carter in his R32. Jack led first. Staying true to his form all day, Matt was right on the door with the pair mirroring each other at each clip.

Coming past clip five, Jack had the rear window pop out of the Silvia but luckily it went straight up in the air and landed behind Matt who was only a few feet off his bumper when it happened. After the parts were picked up and a quick inspection by the track marshals, we were into Jack's chase run and it started out the same as the first with the pair right against each other through clips one to three. As they reached the hairpin, however, it was clear that Matt carter had an issue as there was a small amount of contact between the two drivers near the apex. This led Matt to straighten up on the exit and was enough to see Jack Shanahan take the top podium place.

This win really meant something to the young 16-year-old star of the BDC. The crowd got a taste of that excitement when he did singed a few celebratory doughnuts on the way back to the pits.

Conclusion

All that was left to do was take the podium and spray some champagne. The round four 'Hard Charger' award was given to a well-deserved Nick Brady after he battled to the limit all weekend.

So that was that for another round; a mix of weather, a lot of smoke and quite a few cars full of gravel... but a brilliant weekend's motorsport. The BDC moves to Anglesey in for the final round on 19 September. There's a lot still to play for, with the standings showing Adam Simmons leading Pro Am class still with 74 points ahead of Fraser Stark on 65 points and Louis Geldart on 63 points. Pro class has Jack in first with a comfortable lead thanks to his win, sitting on a well-rounded 100 points with Mike Marshall in second on 82 points and Mark Luney third with 64 points. Now, bring on the final round! 🌟



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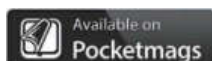
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SUPERCHARGED K20 PRELUDE





SHAKING THINGS UP

Every now and then it pays to do things differently, and they don't get much different than Hond-R's supercharged K20Z BB6 Prelude...

Words: Andy Basoo Photos: Phil Steinhardt

Conformity is a big part of the tuning scene. What's hot and what's not comes down to popular opinion. If we're honest with ourselves, we've probably all fallen foul to following the crowd a little at some point. Take Hondas for example. If it's not a Civic, CRX, Integra, S2000 or NSX, it's not worth considering. Sure the occasional Accord or Legend may find its way into a magazine or onto a showground, but if it's performance you're after, it's not worth looking past the holy five, right? So why is there a 1997 Prelude sprawled across the cover of the UK's best-selling Japanese tuning magazine? It's because renowned specialist, Hond-R, dared to be different and decided to shake things up a little. "The Prelude has always been viewed as being big and slow," Maz from Hond-R told us. "People buy them for one reason and that's to take the engines out. I've always fancied one, though. I've had a few Gen 4s over the years but I always wanted a white Gen 5 Type S."

The Type S was equipped with a 220bhp H22A from the factory and also benefited from an Active Torque Transfer System (ATTS), an LSD-style setup that, as the name suggests, transfers torque to the inner wheel to reduce understeer during high-speed cornering. They came with special Type S seats, no sunroof and a choice of Pearl white, red or black paint. In the Prelude world they're as special as it gets, so it's hardly surprising a die-hard Honda man like Maz has had a soft-spot for the model for a number of years now.

This Diamond White Pearl example came up for sale about three hours' drive away from Hond-R HQ (Abingdon) in Plymouth. "I wanted to tick the fifth generation Prelude off my list," Maz continued, "so I went down to see it. It'd been looked after but it needed some love. I felt sorry for it! When I first got in, for example, padding on the doorcard fell off! It'd obviously been played with a little but it was a sound car. I fell in love with it on the drive home. It was so torquey and smooth with the 2.2 and the driving position was great."

Maz wanted something fast and to satisfy his fix the Prelude was going to need a whole pallet load of additional power. These days there's only one way to achieve that in FWD Honda circles: force induced K-series running gear. Now, here in the UK the most cost-effective route to equipping your car with a special K is sourcing an EP3 K20A2 i-VTEC engine. There's a plentiful supply at present, but Maz had good reason to opt for another 2.0-litre K20 variant...

TTS Performance has long been one of the go to supercharger specialists for VTEC engines. The company's engineers utilise Rotrex centrifugal chargers and have enjoyed excellent results with its purpose-built setups for the EP3, S2000 and FN2. But, with the competition continuing to up its game, TTS recently launched an all-new Shaft Drive kit for the FN2. The new shaft design allows TTS to use the larger C38 Rotrex unit by positioning it where the OEM air box would usually sit. A 'true cold air intake' is then adopted. The 'charger itself is good for 21psi and about

SUPERCHARGED K20 PRELUDE

Power: Proven 401bhp

Engine: K20Z 2.0-litre four-cylinder 16v i-VTEC engine from a 2009 FN2 Civic Type R, TTS Performance FN2 Shaft Drive kit with Rotrex C38-91 supercharger, front mount intercooler, mounts, brackets and pulley, Hond-R custom engine mounts, RRC FD2 oil pump and balancer shaft delete, new chains, guides, tensioners, Skunk2 Black Series chain cover, Toda Anti-G-Force sump, MMR sandwich plate, custom boost piping, Tial blow-off valve, A/C delete, Mocal supercharger oil cooler, Mishimoto twin-core radiator with 12" slim pusher fan, Mishimoto P/S cooler, Mishimoto baffled catch can, Hond-R overflow, Hond-R air diversion plate, Insane Shafts axles, Walbro 255lph fuel pump, Injector Dynamics 1000cc injectors, Hybrid Racing fuel rail, pressure regulator and pressure gauge, Hybrid Racing, Hybrid Racing DC5 gearbox and cables, Hybrid Racing 70mm throttle body, Hybrid Racing Prototype Hall Effect TPS, Hybrid Racing reservoir covers, Hybrid Racing Race Spec conversion loom, custom RSP Honda intake manifold, Honddata thermoshield intake manifold gasket, modified 3" PLM header, titanium heat wrap, custom coil pack cover, Hard Knocks Speed Shop 3" mandrel exhaust system, Honddata K-PRO 4 engine management, Honddata 4bar map sensor, new K20Z valve cover, hidden Odyssey battery, relocated fuse box, twin-pump relocated washer bottle, kill switch and boot-mounted jump posts, Sokietech bonnet dampers, Hond-R wire tuck and full 'bay seam weld and smooth

Transmission: Six-speed manual gearbox from 2004 EP3 Civic Type R, modified S2000 clutch master cylinder, Competition Clutch Stage 4 sprung clutch, Competition Clutch flywheel, MFactory Helical LSD

Chassis: 8x17" (ET32) Work Emotion CR KAI wheels with 215/45 Yokohama AD08R tyres, Muteki forged steel Neo wheel nuts, Tein Street Flex coilovers with EDFC Active Pro, Energy Suspension master bush kit, new track rods, ends, ball joints etc, Toyota MR2 Electro-Hydraulic Power Steering system, UR front strut brace

Brakes: KSport forged 330mm eight-piston front brake kit, Ferodo DS2500 pads, new rear calipers and carriers, new Honda brake master cylinder, StopTech lines all-round, ABS delete with EK9 brake prop valve

Exterior: Value Sports front lip, Mugen (rep) rear spats, Motegi side skirts, new Honda headlights with 6k HID kit, new Honda rear lights and seals, shaved boot lock and Prelude logo, Mugen numberplate bolts, new Honda wind deflectors, new front and rear screen seals, new weather strips and roof gutters, window tints, CRX 1.6 16v bonnet Bulge, rolled arches, Mugen rear spoiler, Hond-R decals, custom 'i-VTEC DOHC' side decals, complete underseal

Interior: Red carpet, Hond-R S2000 cluster conversion, S2000 face-lift steering wheel, Recaro CS custom trimmed seats, Bride Japan seat rails, Hybrid Racing gear knob, carbon effect OEM handbrake surround, Hond-R gauge pod with 60mm MMR oil pressure, boost and oil temperature gauges, Alpine Double-Din GPS/DAB head unit, JDM Alpine DD Drive front components, Alpine Type R 6x9" rear speakers, full Superlite Dynamat soundproofing

Thanks: Rus, Steve at Specialist Welding, David at Hybrid Racing, Romain Levesque, Kev at JR Hemmings, Badger at Hard Knock Speed Shop, Oxford Car Audio, Joe at Capital Seating, Yukiko at Tein UK and Piers at Mishimoto



"It's quite easy to build a quick car.
It's more difficult to build a
quick car that's usable"



Above: It's just as impressive on the inside as it is on the outside. The interior finish gives the car a real 'factory special' feel, rather than aftermarket add-on, and everything looks right at home



Left: The complete digital dash display has been transplanted from a Honda S2000 and fitted using a bespoke binnacle



550bhp, but TTS has found the FN2's 2.0-litre 16v K20Z i-VTEC engine to be perfectly reliable when running well over 400bhp on standard internals. That's just the kind of power that Maz was looking for! Why can't you simply fit the Shaft Drive kit to an EP3's K20A2? Well, because the FN2's head has a mounting system that doesn't exist on the EP3. If he wanted to benefit from TTS's development and fabrication, Maz was going to need to find himself a suitable K20Z from an FN2.

The perfect engine turned up in the form of a 17,000-mile unit from a 2009 FN2 Type R. Maz snapped it up. So all he need to do now was to strap the TTS kit to the engine and drop the K-series into the spacious Prelude's bay. How hard could it be? Hond-R has always been pretty blasé about its engine conversions. 'We just dropped it in and lined everything up and that was about it,' is the usual story you get if you quiz Maz or business partner Russell 'Rusty' Taylor about how they transplanted a particular engine. As you can see from the photos, there's a lot more involved than that.

For starters, the Prelude runs a front sub-frame, much like an old CRX. The engine sits so close to that sub-frame there's very little space for anything else lower down in the bay. There was no option to run a bottom-mounted

supercharger kit, for example, it had to sit higher. The TTS kit selected thankfully does sit higher, but with the Prelude's bay being shallow and long rather than deep and short like the FN2's, bonnet clearance was always going to be an issue. More on that later...

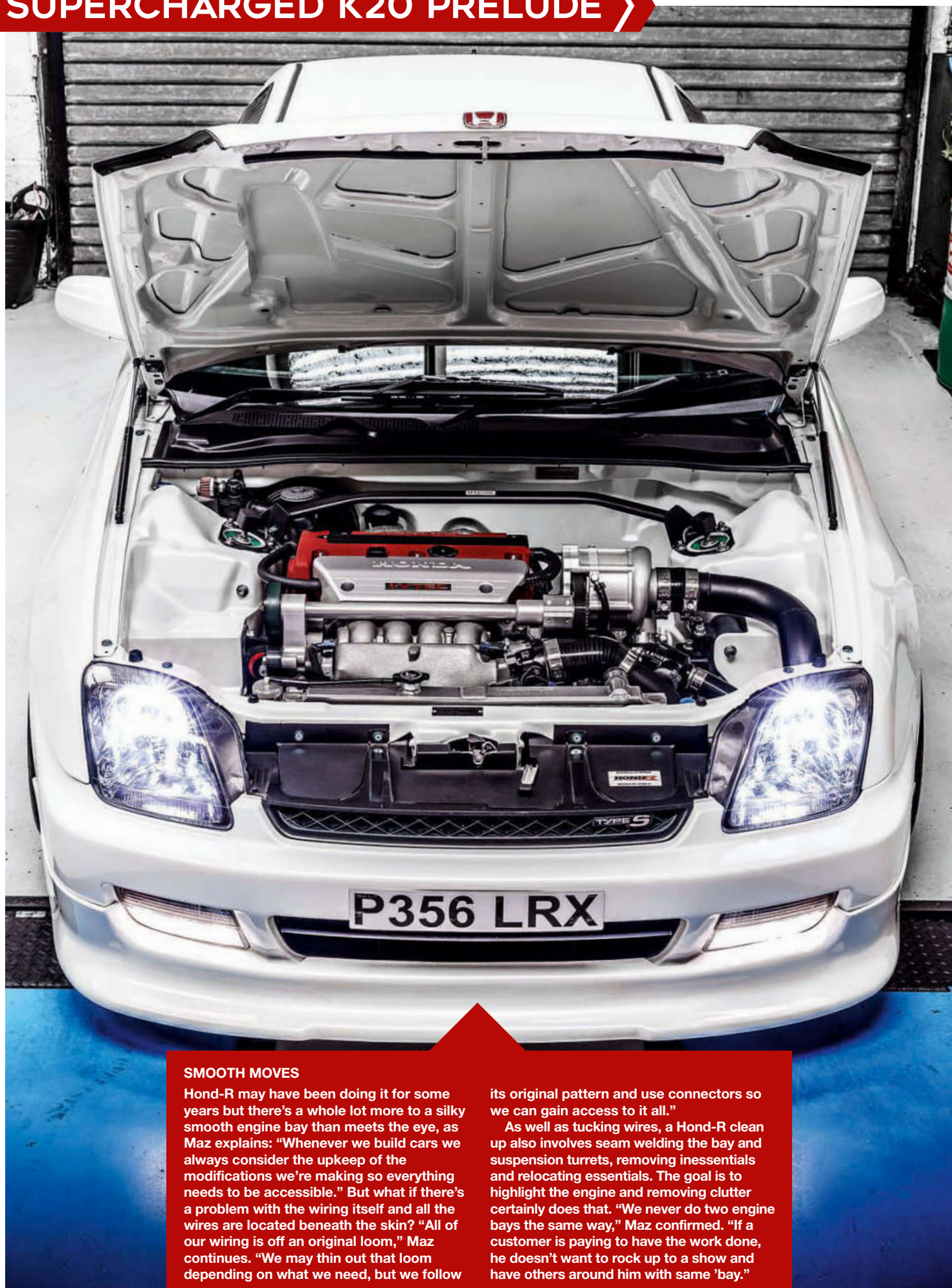
It was unlikely the FN2's engine mounts and the TTS mounting brackets were going to be of any use either. With no off-the-shelf K20 into Gen 5 Prelude conversion kits available, Maz got in contact with a fellow Prelude forum member who had been working on a similar conversion himself. "The guy had managed to get the engine and gearbox in there and running but it was never perfected and he decided to break the car," Maz explained. "I asked if he'd mind making up another set of mounts for me, which he was kind enough to do. They were more brackets than mounts really but we were able to put one of them to good use. We ended up fabricating the others ourselves."

Hond-R secured a six-speed gearbox from a 2004 EP3 and fitted it out with a Competition Clutch Stage 4 sprung clutch and flywheel, plus a modified S2000 master cylinder and MFactory Helical LSD. Adding the components was simple but the rear sub-frame needed adjusting because there wasn't enough clearance for the K20's 'box. Once the

alterations had been made, it was time to temporarily lower the engine and gearbox into place. The H22A had already been moved out the way so Maz and Rusty began calculating how and where everything would sit. "Once the engine was in we just went through the motions," Maz conceded. "We just started working our way around problems and the serious fabrication began. Rus got to work on the bay and I got cracking on the engine itself."

One of the challenges to overcome was making the newer running gear compliant with the older base car. For example, the FN2 is drive by wire but the Prelude uses an old-school throttle cable. Hond-R had already determined it was going to use an EP3 ECU in order to add Honddata K-Pro 4 engine management. With the EP3 also using a throttle cable, it was the FN2's throttle system that was going to have to give. The obvious solution was to replacing the FN2's stock inlet manifold and throttle body with a setup that uses an idle control valve. Maz tried countless OEM Honda and aftermarket inlet manifolds but all of them fouled the supercharger! "We had to stick with the stock FN2 inlet manifold," he explained. "It obviously needed modifying so we took it to Steve Reeve at Specialist Welding. He does all of our aluminium welding and TIG welding. Or if we

SUPERCHARGED K20 PRELUDE



SMOOTH MOVES

Hond-R may have been doing it for some years but there's a whole lot more to a silky smooth engine bay than meets the eye, as Maz explains: "Whenever we build cars we always consider the upkeep of the modifications we're making so everything needs to be accessible." But what if there's a problem with the wiring itself and all the wires are located beneath the skin? "All of our wiring is off an original loom," Maz continues. "We may thin out that loom depending on what we need, but we follow

its original pattern and use connectors so we can gain access to it all."

As well as tucking wires, a Hond-R clean up also involves seam welding the bay and suspension turrets, removing inessentials and relocating essentials. The goal is to highlight the engine and removing clutter certainly does that. "We never do two engine bays the same way," Maz confirmed. "If a customer is paying to have the work done, he doesn't want to rock up to a show and have others around him with same 'bay."

have anything that's going to be on show and needs to be really pretty, we send it to him. He welded a piece we designed onto the throttle body flange to give us an area for an idle control valve. That enabled us to retain the throttle cable on the Prelude."

With the supercharged K20Z now operational, the engine and supercharger mounts finalised (the pulley, supercharger bracket and shaft are from TTS, the rest are custom fabricated) and the driveshafts lined-up, the running gear was then removed to tidy everything up and allow the guys to get cracking on the rest of the car. The final mapping would take place right at the end of the build.

To make the new running gear communicate with the interior dials and gubbins, every element related to the outgoing H-series needed to go and a new wiring harness added. "We always use Hybrid Racing harnesses," Maz continued. "They work perfectly and Hybrid Racing is a great company to work with. We bought loads of bits off them for this car, like the 70mm throttle body, DC5 shifter cables and 'box and some fuelling parts." The 255lph fuel pump is from Walbro and the 1000cc injectors are from Injector Dynamics but the rail, pressure regulator and pressure gauge are all from Hybrid Racing.

The harness also allows for the retention of the Prelude's comfort features like power folding mirrors and electric windows. In Maz's mind this was extremely important. "It's quite easy to build a quick car," he stated. "It's more difficult to build a quick car that's usable. I wanted to drive the Prelude every day of the week so it had to have soundproofing and everything to work correctly. Ergonomically, everything needed to be where it should be. And aside from the clutch being a bit heavy, it feels stock – even with the S2000 clocks. Lots of people fit them but we wanted ours to be fully integrated into the binnacle, as if they were there from the factory. It just takes time to do these things and you have to plan how to do them properly to make sure they're reliable and can be serviced if the need arises."

The soundproofing that Maz speaks of is actually Superlite Dynamat, which has even been applied to the bulkhead to ensure a truly comfortable driving experience. A red carpet was then sourced to add a nice Type R feel to the cabin, before mounting custom-trimmed Recaro CS seats to the floor via Bride seat rails. You get the impression that Maz does indeed intend to spend a lot of time in this car and so naturally he didn't want to be turned off it by an overly noisy or boisterous engine tone. The three-inch custom exhaust system was fabricated by Chris Badger at Hard Knocks Speed Shop and while its free-flowing nature provides real bark, it doesn't allow the K20Z to drone away its spent gases.

When it came to the chassis the tired bushes have all been replaced with fresh new Energy Suspension items, and Maz opted for a top of the range Tein coilover setup that allows him full damping adjustability from the comfort of his Recaro perch. The Street Flex coilovers offer superb ride quality at the best of times but, with the added benefit of EDC Active Pro in place, he can soften or firm up the ride depending on the road surface or circumstance. The KSport brakes offer excellent feel, too, for everyday driving but also outstanding stopping power when called upon.

One really clever addition to the chassis is



Above: The Tein coilovers feature Electronic Damper Control, managed from inside the cabin



Left: The top-mount Rotrex C38-91 supercharger supplies the boost



SUPERCHARGED K20 PRELUDE



the inclusion of electro-hydraulic power steering. The system was taken from a Toyota MR2 and can be engaged and disengaged at the flick of a switch in the cockpit. Again, you see how comfort was of the ultimate importance, but not at the expense of a more hardcore driving experience when Maz wanted. He's got a Hond-R gauge pod sitting atop the dash, too, with the three 60mm MMR gauges providing all the operating info he requires about the force induced K-series.

Outside, the Prelude is clean and simple, just as you would expect from a Hond-R build. The specialist always displays restraint and good taste in equal measure with its project cars, and when it comes to Gen 5 Preludes, the less-is-more approach is certainly the one to go for. It's a model that doesn't take too well to body kits or being overly styled in general. The main additions are a Value Sports front lip, Motegi side skirts, Mugen-style rear spats and a genuine Mugen wing. Maz has clearly tried to fill-out the body and bring it down to earth, an approach that has added aggression to the Type S's exterior. Even the choice of tyre profile helps with that. It wears 215/45 Yokohama AD08Rs that wrap around the 8x17" Work Emotion CR KAI wheels. The Honda has a purposeful poise and we like it.

Also worth mentioning is the bonnet. As highlighted earlier, bonnet clearance was a real issue. It wasn't so much the K20 that was the problem, it was the supercharger, or supercharger pulley to be precise. A little bonnet skeleton trimming cleared the 'charger but Hond-R had to cut a rectangle out of the bonnet to clear the pulley. Numerous options were trialled but in the end Maz sourced a non-VTEC 1.6 16v Gen 2 CRX bonnet and cut the bulge out of that. He then had Kev Barnes

"It's insanely fast and puts a smile on my face... it's got that retro cool, Nineties Japanese feel to it"



The perfectly suited 8x17" Work Emotion CR KAI wheels hide the KSport eight-pot calipers

at JR Hemmings body shop smooth the bulge in, giving an OEM look. The rest of the body was tidied and plenty of fresh Diamond White Pearl paint then applied.

While Maz was clearly keen to get the running gear back in the car, it's the thorough prep work that makes the finish of a build like this so special. So, only after he and Rusty had replaced every single light, gasket, ball joint, link, arm and clip did they refit the engine and gearbox.

Romain Levesque was called in to map the car. Initially, 437bhp was realised, but this was wound back down to 401bhp for driveability and reliability reasons. "To be honest, first and second gears are a bit useless," Maz laughed. "It gets the power down just like a supercharged FN2 but we haven't got traction control set up so you just have to feel your way through the first couple of gears. But it sings all the way up to 170mph and I still averaged over 40mpg on the way to Hondafest. It's insanely fast and puts a smile on my face every time I get in the car. It's got that retro cool, Nineties Japanese feel to it. It isn't shouty on the outside either, it's super-fun but doesn't get uncomfortable on long journeys."

It sounds like Maz and Rus of the Hond-R team have struck gold with this build. And judging by the noise the car is causing online, it certainly pays to be different once in a while. The execution of the supercharged K-series swap is stunning, meaning this car would more than hold its own on a US showground. But it's the pace and driveability of the Prelude that has clearly got Maz smitten. He's got no intention of letting this one go any time soon, but we can't wait to see what Hond-R gets its teeth stuck into next... 🌟

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Below: Gerry Brady (left) began PerformanceTek a decade ago, and has never looked back



WHO IS PERFORMANCETEK?

We pop into PerformanceTek to find out how the tuning specialist is growing and what it's now able to offer customers...

Words: Andy Basoo Photos: Iain Struthers (Power Images)

Finding a garage that you can trust and that won't rip you off can be tricky. Finding a specialist that can expertly tune your beloved project car for a reasonable price can be even more challenging. Glasgow-based PerformanceTek opened its doors in 2004 and soon established itself one of the UK's go-to outfits for Honda engine conversions. Owner Gerry Brady is a qualified mechanic and when word got around that he'd plumbed a JDM D15B into his Civic EG4 LSi and a B16A2 into a mate's Civic EJ6, enquiries soon came flooding in from local Honda owners. Gerry's small two-car garage was never going to cut it, so PerformanceTek was born and a small purpose-built unit was taken on to meet demand.

Over the next few years, PerformanceTek's good reputation spread and customers from all over the UK began trekking up to Glasgow for

engine conversions and other tuning solutions. "We used to do three to four B-swaps a week," Gerry smiled. "Back then there were so many write-offs and MoT failures knocking around, it was really easy to pick up B-series running gear. The conversions were quite simple so anyone with D-series Hondas could get B-series power quite cheaply."

The Honda tuning scene has evolved over the years, though, and it's all about K-series engines now. "EP3s are now at the value that EGs and EKs were back when I started," Gerry continued. "So the majority of the work we do is with K-series engines. Obviously, EP3s came with K20s as standard so it's less engine swaps and more tuning that customers require these days. That said, we do carry out the occasional K20 conversion on an EP2 and fit a number of K-series engines into older EGs, EKs and DC2s. They're popular right now."

Supercharger conversions have always

been big in the Honda community as they allow for the retention of the iconic VTEC driving characteristics. Back in the early days it was B-series EK and DC2 owners coming forward for Jackson Racing 'chargers, but the evolving technology works equally as effectively on K-series engines too, so there is always at least one supercharger job booked in at the Glasgow specialist's premises. If EP3 and FN2 customers aren't looking for big power, then selected breathing enhancers and some expert mapping with Hondadata K100 engine management (see Hondadata Approved Dealer) sees most K20 Civics leaving the PerformanceTek dyno with 225-230bhp. Impressive gains for a modest investment.

So, in terms of K-series variations, which is PerformanceTek's favourite engine to work with? "The JDM K20A is simply amazing out-of-the-box," Gerry enthused. "But in terms of tuning potential, you can't beat the K24. The

We head up to Glasgow to see what's new with one of the UK's most respected Honda tuners – PerformanceTek

When it comes to tuning K-series Honda engines, there's not much these guys haven't done



“The JDM K20A is simply amazing, but in terms of tuning potential, you can't beat the K24”



It's not all about Hondas for the PerformanceTek team – they race MINIs too!

torque possibilities are exceptional.” In standard format, K24s, as found in CL9 Accords in the UK, aren't much to write home about, but built K24s are a whole new level. Perhaps something for EP3, FN2, DC5 and just about any other Honda owners come to think about it to keep in mind.

While Honda tuning demands have changed over the years, you get the impression from Gerry that PerformanceTek still loves getting its teeth into engine transplants, not matter how unusual. It's what the company's built its reputation on, so if you're in search of big performance hikes and have swap ideas in your head, we recommend getting in touch and chatting through your options. That's not just if you own a Honda either. Gerry's own company workhorse is a VW Caddy van with R32 Golf 3.2-litre V6 underpinnings, proving the company can turn its hand to almost anything.

PerformanceTek also runs a race team in the Celtic Speed Scottish Mini Cooper Cup, managing four R50 MINIs and their respective drivers. How did the outfit get into MINIs? It was the same story as the Honda engine conversions really. After prepping one or two cars for the race series and those cars going on to be very competitive in the championship, the calls came rushing in, resulting in Gerry and his team frequenting race tracks most weekends and leaving all essence of a social life behind them.

So having moved twice as the business has grown, PerformanceTek now operates from a 3000sq/ft unit. This is essentially divided into two sections. The main section is used for servicing, repairs and general tuning, and benefits from two ramps. It's here the Dynocom DC5000 2WD dyno is also located. The second area has another ramp and is used for race car builds and prep. There's usually at least one MINI being fettled here. Also on site is a HEL Performance production facility. Off-the-shelf hose kits are made on site, while bespoke setups can also be built to accommodate specific requirements.

As well as tuning customers' cars, PerformanceTek also carries out general servicing and can sort out a fresh MoT certificate for your car too. You can drop your ride off in the morning and pick it up on the way home from work, safe in the knowledge that your pride and joy hasn't been serviced by a generic technician, but a specialist. It's safe to say, PerformanceTek has grown due to a fine reputation and excellent customer service. It's a company that will continue to go from strength-to-strength 🌟



HONDATA APPROVED DEALER

There are many engine management solutions out there, but Hondata has long been one of the preferred options for Honda enthusiasts and for good reason. Hondata products are essentially built on Honda ECUs. Honda spends so much money on ECU development, it doesn't make sense to scrap Honda's own designs unless absolutely essential. With a Hondata interface you're just tuning what Honda has already developed. That's the principle anyway.

The US company is very savvy as to who it allows to distribute and fit its products. It's about quality control and wanting to ensure that all end customers are benefiting from its Hondata engine management to the full, no matter which option they've selected. As such, PerformanceTek head man, Gerry Brady, travelled to Los Angeles to undergo specialist Hondata training. Although doing so isn't mandatory, Gerry found the Advanced Training for Flash-Pro and K-Pro course hugely beneficial as it goes more in-depth with some of the additional product features and how to maximise performance. “When you meet the people who actually designed the software it gives you a new perspective as to your ultimate goals when it comes to tuning,” Gerry explained to us.

In terms of management options, the K100 is extremely cost effective. Supplied and fitted for an EP3, it retails at just £720 and allows for a custom map to be applied to your Honda's ECU. A similar setup from AEM will set you back nearer £1000. The K100 is the fit-and-forget option.

The K-Pro is more advanced and features things like Bluetooth so you can clear fault codes and read data logs with your phones. It allows you to map in launch control, boost by gear and numerous other functions. When fitting K-Pro, PerformanceTek approaches each car on an individual basis. After consulting carefully with the customer as to their specific usage and requirements, Gerry will set about his work to ensure your car maximises its potential.





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HONDATA
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SHOW-STOPPER R32 GT-R



A blue Nissan Skyline R32 is parked on a gravel surface in front of a wall made of blue and grey corrugated metal. The car is shown from a side profile, highlighting its sleek design and white multi-spoke wheels with red center caps. The background wall has a weathered, industrial look with some green moss or algae growth.

Words and photos: Simon Cooke

SIMPLY THE BEST

Voted as one of the best R32
Skylines in the UK by the GT-R
Owners' Club a little while back,
the best just got better...

SHOW-STOPPER R32 GT-R



A few years ago this car was voted the best R32 Nissan Skyline GT-R that the UK had to offer, at least it was according to the members of the GTR Owners' Club, who have an annual competition to vote which one they think is best. And who are we to argue?

The owner of the winning car was Bobby Proctor. Bobby has been working up to this title for years, kicking off his love of all things Japanese with a Prodrive-enhanced Subaru Wagon, a Civic Type R and an Evo VI, before discovering the magic of Skyline GT-Rs with a R34, an R33 and then this R32. "I like the R32 because it's simple and has the best shape," Bobby explained. "I've owned this car for about eight years – I actually swapped it for my R33 that I had at the time. Although my car did turn up for the swap on the back of an AA trailer! It broke down on the way; the alternator was overcharging and blew every ECU on the car. Abbey Motorsport sorted it all out and the guy was still happy to do the swap!"

When Bobby got his hands on the car it was pretty standard aside from an ARC air box, an exhaust and HKS dampers. "I just knew that once I got the right car it should do the things that everyone says a Skyline should do," says Bobby. Inspiration came from spending hours on the internet – especially the GTROC and via *Hyper Tune* magazine, even though he can't read a word of Japanese, he can at least look at the inspiring photos.

To be honest, on the outside there haven't been many changes – it's still the Mitsubishi blue it was painted in when it came from Japan, covering the standard Gunmetal grey. "I'm not a massive fan of big crazy body kits so I've gone for the Group A/Nismo racing

GTROC

Founded in 1993 the GTR Owners' Club (www.gtroc.org) is the only officially recognised 'Owners' Club' for the Nissan Skyline and GT-R anywhere in the world. It's backed by the 'GT-R Register' which has the largest number of regular and irregular contributors of any Skyline and GT-R 'forum' in the Northern Hemisphere.

The club is open to enthusiasts as well as owners. Club members boast cars as diverse as the early KPGC10s to the newest edition to the family, the infamous R35 GT-R. The honorary president is Mr Hiroshi Tamura ('Mr. GT-R') and this is the only club to which he has agreed to take on this prestigious role. In addition the club also boasts membership from the chairman of Do-Luck, 'Smokey' of Top Secret and a number of other well-known people and companies in the Skyline and GT-R family.

look, which is more subtle," he points out.

"My first job was to replace the perished rubber hoses under the intake plenum, which is a common problem," remembers Bobby. "A friend and I pulled the engine apart to replace them and while we were doing it I decided to change other parts at the same time. I started by removing the rear subframe. I had it galvanised and powdercoated. I just wanted everything to look as good as possible."

Then he turned his attention back towards the front of the car. "I did the same with the front suspension and while it was off being powdercoated I had the engine rebuilt," he confirmed. The suspension has been upgraded to include Nitron two-way adjustable shocks, Nismo anti-roll bars and Ikeya Formula suspension arms, and of course uprated bushes. "We have a specialist based at Castle Combe race circuit who is responsible for our suspension, so he sorts the setups and corner weighting so it's perfect; it handles like a train on rails," said Bobby. With that in mind, you might expect to see Bobby having plenty of adventures on the track with the car, but that's not quite the



case: "It's not a track car, it's been built for fast road use within the speed limits and when the road conditions allow," he's quick to point out. "I won't risk it ending up in the Armco or anybody else driving into me on the track." But he does admit that the race suspension gets put to good use when he's out for his weekend drives.

Next up was an engine refresh, and Bobby found a pair of safe hands to take care of that. "My engine builder is Pete Whitfield who is an ex-McLaren F1 engine builder. It was built to cope with more power than I wanted. It's all forged and fully balanced. I got his advice on something which would be safe to run at about 600bhp," continues Bobby.

Unlike the glory boys on the drag strip who want big power and switch from the standard twin-turbo setup to a massive single blower, Bobby stuck with the twins. His sound reasoning being that if it was good enough for Group A racing, then it was good enough for him on the road.

Bobby fitted the engine on his drive at home. "Then I decided to strip the interior and fit a roll-cage," he continues. "It was

**“I knew that once I got the right car
it should do the things everyone
says a Skyline should do”**



SHOW-STOPPER R32 GT-R



really only for the look, I wasn't planning to take the car on track, I was just inspired by the Group A Touring cars."

He started off with a Safety Devices half-cage, and then decided he could make improvements to it. "I wanted to add some extra chassis strengthening, so I added door, transmission and harness bars," he elaborates. "The half-cage was basic, but I don't like full cages. I do like the idea of the cage helping the chassis, though. The door bars are good for side impacts and offer added strength, so it's rigid and it means the suspension can do its work without the chassis flexing." He's added bucket seats and harnesses to add to the competition effect and there have been several versions of dashboard. "Originally I had it flocked and it looked great," said Bobby, "but I found it high maintenance as it attracted all the dust to it, so I had it trimmed in Alcantara instead."

He's made some major changes to his instrument selection as well. "I've fitted the Stack digital dash which replaces all the original instruments," he points out. "It was a nightmare to fit because all the sensors and

connections are different but it does look the part and allows me to keep an eye on everything that's going on in the car and under the bonnet." He's also fitted a Rusic 4x4 controlled in the carbon fibre centre console. This allows him to change the maps in the 4WD system and store up to five different maps to suit road/driving conditions, or even different types of bend. It's all controlled via buttons on the steering wheel so he doesn't need to take his hands off the wheel in the vital moments to alter traction settings. He does admit this gadget gets limited use while on the road, but will be activated on a more regular basis if he ever ventures on to the track. He loves the fact that modern gadgets are transporting an old car into the modern age and reckons his new digital G sensors are 30 times faster and more accurate than the standard analogue version they replace.

Mind you he's stayed old-school when it comes to his brakes and you can't get any better than an AP Racing and Brembo setup; Bobby refurbished them (he does a lot of that) after he bought them from Mark Biggers' (at MGT Racing) Skyline race car. Those sexy

BBS alloys? They're on long-term loan from a friend and if he ever wants them back Bobby would likely replace them with some Rays.

Although the car is garaged over winter, and has yet to see a drag strip or race track, it's not totally pampered and gets an annual outing to Le Mans with some like-minded performance car mates – I think we can safely assume that's not a slow convoy for that trip!

"I imagine it was running about 300bhp when I bought the car," explains Bobby. "It's now almost double that. It was at 530bhp before the latest session at RB and I wanted to see 600bhp so I fitted 1000cc injectors to prevent it running lean. I've got four boost settings but it doesn't get off 1.3bar because I don't drive it that much and when I do I want to use the full power. I think 500-600bhp is perfect for these cars."

So, how does it drive now? "With any Skyline you have to keep it in the revs, so that's above 3000rpm, or there's a bit too much lag," he replies. "So you can't just put your foot down in any gear, you usually need to drop a gear and then it just goes. I change up at about 7000rpm and I've got



Below: BBS LMs cover AP Racing six-pots



Performance: Approximately 520bhp at the flywheel at 1.3bar

Engine: RB26DETT, 0.5 mm overbore, Wiseco pistons, K1 rods, ARP fixings, ACL race bearings, balanced crank, flywheel and clutch, Tomei and HKS metal gaskets throughout, Garrett 2860 -5 ball bearing turbos running HKS adjustable actuators and restrictors, HKS step one cams, RSP cam baffles, Whitfield Engineering ported head, Tract intake spacers, Tomei valve springs, Supertech valve guides, match ported plenum, (polished) and exhaust manifold and intake manifold, HKS turbo elbows, RSP head drain to sump, acid-dipped block, OEM R32 crank with long collar fitted, Tomei sump baffles and custom sump extension, ATI crank damper, GReddy kevlar timing belt and cam pulleys, Nitto oil pump, N1 water pump, ID 1000 injectors, SARD fuel rail, braided fuel lines/Goodridge fixings, Sytec fuel pressure regulator and fuel filter, GReddy hard pipe and filters, HKS intercooler and hard pipes GReddy spark plugs and clear cam pulley cover, Samco silicone hoses throughout, Trust oil filter relocation and Radtec external oil cooler, GReddy alloy radiator and cap, billet aluminium radiator brackets, ARC cooling panel, RB25 AFMs, heat wrapped Trust downpipe, R34 O2 sensors, air-con deleted, powdercoated cam covers, Zealou5 titanium bonnet stay, Project Mu BMC sock, Zealou5 Turquoise cam/Camberly covers, power FC Pro ECU mapped by the brilliant Rod Bell at RB Motorsport

Transmission: Carbonetics twin-plate clutch, OS Giken gearset

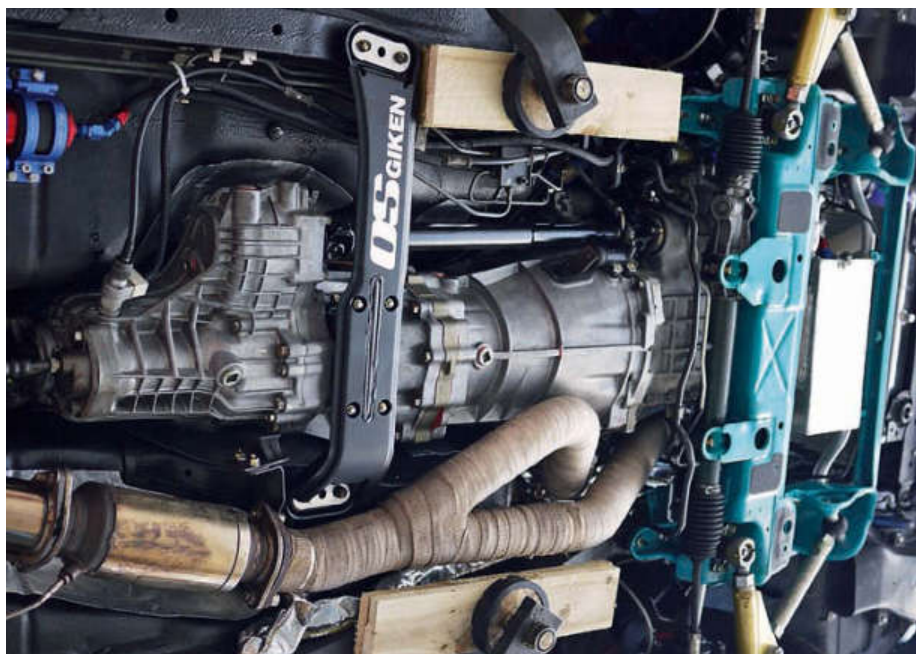
Chassis: BBS LM 18x10 ET20 with Bridgestone Potenza 265s, Nitron shock absorbers, Nismo ARBs front and rear, Ikeya Formula suspension arms front and rear, SuperPro and Whiteline poly bushes, HICAS delete, rear subframe strengthening brace, HKS Kansai underbody bracing bars front and rear, HICAS lock out bar, Noltec subframe main bushes, Cusco rear strut brace, customised ARC titanium strut brace by Dan at Caged/Laser, Driftworks stainless steel steering bush

Brakes: Front: AP Racing six-pot front brakes with AP Racing two-piece rotors. Rear: Brembo four-pot calipers with Biot two-piece rotors, ABS delete with Goodridge braided lines throughout

Exterior: Mitsubishi Fuji blue paintwork, Nismo side skirts and intercooler bumper vents, aftermarket Garage Saurus Group A mirrors, rear wiper delete, Aerocatch bonnet catches

Interior: Custom Zealou5 roll-cage, Recaro SPG bucket seats, Schroth and Takata four-point harnesses, Alcantara suede dash with turquoise stitching, stripped interior with rear seats deleted, STACK dash and boost, AFR, fuel pressure and EGT gauges, Rusic 4x4 controller, battery relocated to rear in SARD alloy battery box, carbon superior cubby box cover and hand brake gator, Alpine stereo

Thanks: The Zealou5 crew for their continued and unrelenting support (Mike, Jimbo, Will, Dave, Jonny, Matt, Iain, Fin and Jay), Fil and Al for getting me into this career with many happy days and nights spent yielding a spanner on our backs on cold drives, under torch light, Gary at Merlin Motorsport for being the 'main man', local parts supplier, Rod, Steve and the guys at RB Motorsport for continued support and an awesome map, Pete Whitfield for my engine build, it pulls like a train! Dan Trout at Caged/Laser for the custom fabrication work, the GTROC forum for a wealth of knowledge and informative banter, my folks and my girlfriend's folks who encouraged me to leave advertising and pursue something I was more passionate about and believed in and most importantly my amazingly encouraging girlfriend, Lou, who's kept me in food and warm clothes and smiles when times hard when we were setting the business up



SHOW-STOPPER R32 GT-R



Zealou5

Since September 2011 Bobby has been busy building up his own car restoration/performance car business, going by the name of Zealou5 (the '5' rather than the 's' is because the name Zealous wasn't available). It's based in the south west of England and his aim is to offer the same level of care, attention to detail and service he would give his own car to others.

Bobby's predominant skills are in refurbishment, restoration and fitting new/upgraded performance parts. It's what he and his team love to do. Zealou5 loves to take on any interesting project and the team always work very closely with their customers, many of who themselves enjoy to learn new skills/techniques as their own project develops towards fruition. Bobby himself has an irrational fear of other garages jacking his car up on its sills and damaging them, so he doesn't do that. He also has a very unhealthy amount of OCD when it comes to getting customer cars perfect.

Some of Zealou5's affiliates have recently taken over a dyno at a race track in Canada and so Zealou5 now also has a Canadian base.

Contact:
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my rev limiter set at 8000."

Like many cars featured in *Banzai* they don't stay the same for ever, and owners often make changes within hours of the photoshoot. Bobby is no exception. And although the car is pretty much in the same spec as when it was voted best Skyline in the UK, there have been a few minor changes as he attempts to improve on perfection.

He's now fitted a Zealou5 steering wheel and a new Endless front splitter; those are the obvious changes. Under the bonnet he's swapped to his own branded downpipe, which he designed and fabricated himself. "It sounds immense and helps everything to flow better," he's delighted to report. "It's a lot bigger than anything you can buy off-the-shelf and it allows the turbos to get rid of the gasses that much quicker." It's been mated to a new Tomei titanium exhaust system.

What you won't be able to see is the new transmission upgrade. "I've fitted the Nismo LSD on the front end to replace the standard open diff and it's probably the best thing I've done to improve the handling on the car," he reveals. "There's now so much more front-end grip that I don't often need to lift off when I turn into corners." He's says it's changed the

car completely but it's not an easy fit as it requires the engine to be taken out and modifications performed to the diff casing. That's fine for Bobby because he never needs an excuse to take the engine out to fit another shiny part, or just to clean it!

Bobby has already mentioned that he'd never risk his car on the track, but there is another reason: "It's just the amount of money I've spent on my R32, and these days the prices for cars with similar spec and originality, are going through the roof," he explains. "They have reached the age when they can be imported into the USA now the restrictions have ended. Also, the price of them has doubled over the past couple of years since the market for them has expanded to cover the USA, fuelled by driving them on console games and then wanting to drive the real thing!" So no way will he be risking his investment.

Ironically, Bobby says he's really quite a modest person, but over the past couple of years his hobby has turned into a full-time business in the form of his company, Zealou5. So owning one of the best Skylines the UK has ever seen will certainly be a big boost to his street creditability... 🌟



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TURBOCHARGERS

In the first of a new series, *Tech Talk* explores how and why mechanical components work the way they do, and this month, we're starting with turbochargers...

Words: Jamie King Photos: Michael Whitestone

Despite being around for nearly 100 years, turbochargers are still seen as a bit of a dark art when it comes to engine tuning. Yes, we can all grasp the basic principal that forcing more air and fuel into an engine results in more power, but understanding how the turbocharger actually works is a bit more complicated. To fully understand that we need to take a look inside the turbo itself, and consider the component parts that make up the turbocharger unit.

Each of these components is not only vital

to the smooth operation of the turbo, they all have a huge effect on its characteristics too. How much power a turbo can handle, what boost pressures are possible and how laggy it will be are all dictated by the component parts that make up the turbo. And when we start to make changes to these component parts we can start to tailor the turbo to suit our specific needs.

Here's our lowdown on the component parts that make up a turbocharger, what they do, and what effect they have on how the turbo performs...

WHAT IS A TURBO?

Before we delve in too deep, let's first establish a basic understanding of what a turbo is and what it does. In its simplest form the easiest way to think of a turbo is like a big air pump. The exhaust gases spin a turbine wheel on one end, which in turn spins a compressor wheel on the other end. As the compressor wheel spins it sucks in air from the air filter, squeezes (compresses) it, and forces it into the engine at a higher pressure, creating boost. This boost means there is more air in the engine, so we can add more fuel and use it to create a bigger explosion, and therefore produce more power. But in order for a turbocharger to work effectively it needs to be suited to its application. And this is where carefully choosing the correct component parts comes in...

TURBINE WHEEL AND SHAFT ASSEMBLY

Originally manufactured as two separate parts, the turbine wheel and shaft are friction-welded together and balanced to become one unit, known as the wheel and shaft assembly. You will hear people talking about different sizes of turbine wheel, and this is one of the single biggest factors affecting a turbocharger's performance.

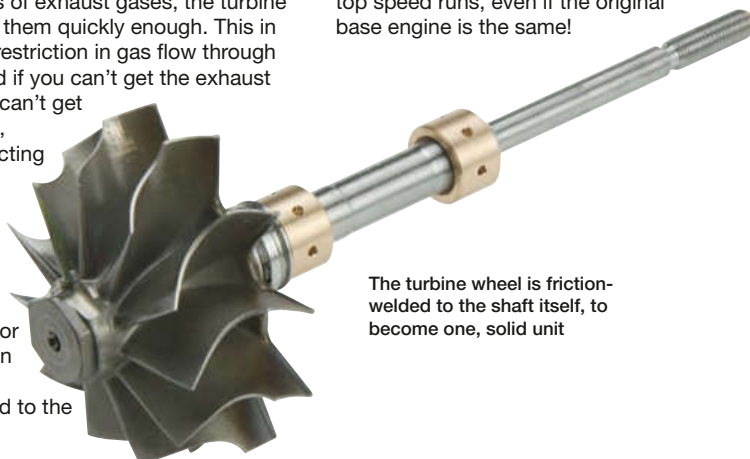
The turbine wheel sits on the exhaust side of the turbo and is driven directly by the exhaust gases exiting the engine. Therefore the size of the turbine wheel will affect how laggy a turbo will be, but also how much top-end power it will be capable of.

A smaller turbine will spool up quicker as it requires less effort from the exhaust gases to get up to speed. This means less lag and improved driveability, but the trade-off is a restriction on outright power. The small turbine wheel may respond well when the

engine isn't pumping out a lot of exhaust gases (hence the low lag), but this also means that when the engine *does* start to produce higher volumes of exhaust gases, the turbine can't get rid of them quickly enough. This in turn causes a restriction in gas flow through the engine, and if you can't get the exhaust gases out you can't get fresh air/fuel in, therefore restricting the ultimate power potential of an engine.

Choosing the right turbine wheel for your application will depend on what you intend to the

use the car for and what your goals are. A punchy hillclimb car will want a very different turbine wheel to that of a car designed for top speed runs, even if the original base engine is the same!



The turbine wheel is friction-welded to the shaft itself, to become one, solid unit



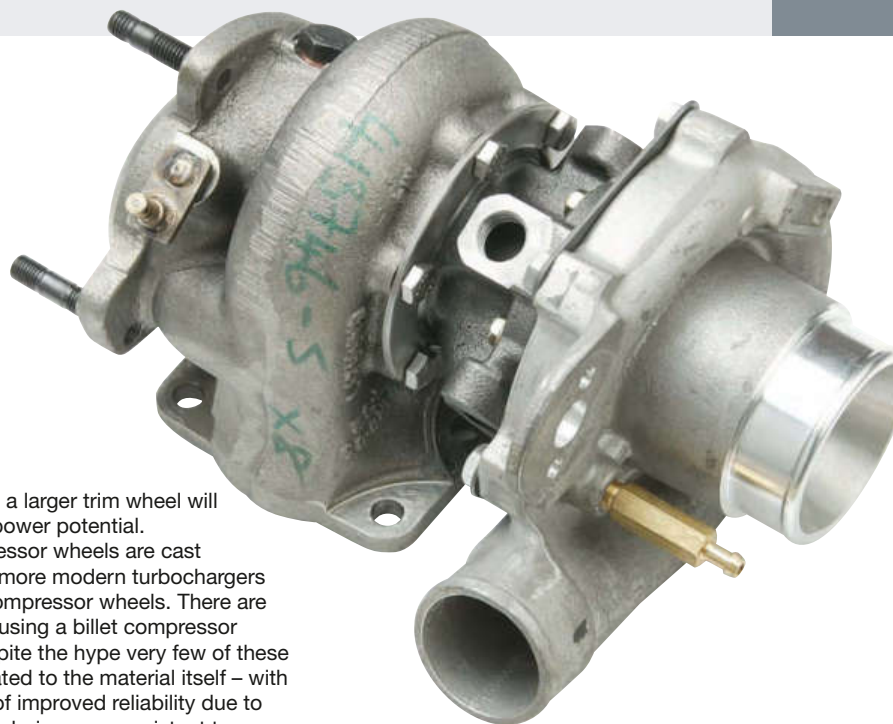
COMPRESSOR WHEEL

The compressor wheel is the business end of the turbo – it's the part that forces air into the engine to give you more power. There are various different compressor wheels available for most turbos, and in some cases people can even manufacture their own design compressor wheel.

Looking down on a compressor wheel you will notice it is conical in shape, so the diameter at the top is smaller than the diameter at the base. The difference between these two diameters is referred to as the 'trim'. Altering the trim has an effect on the turbo's characteristics, although not as pronounced as with the turbine wheel. A smaller trim compressor wheel will spool up

faster, whereas a larger trim wheel will have a higher power potential.

Most compressor wheels are cast aluminium but more modern turbochargers feature billet compressor wheels. There are advantages of using a billet compressor wheel, but despite the hype very few of these are directly related to the material itself – with the exception of improved reliability due to aluminium being more resistant to fatigue. If you had two identical wheels, one made from billet and one cast, there would be very little performance differences between them. However, using billet does mean that custom compressor wheels can be produced more easily, and that turbo specialists are no



longer limited to the range of compressor wheels available from mass-produced units. Therefore, we are currently seeing turbos offered with a choice of blade design, size, and trim level – all of which will affect the turbo's performance.



JOURNAL BEARINGS

Older turbos use a journal bearing setup, as opposed to later ball-bearing style turbos. The journal bearings are phosphor bronze items which support the turbine shaft within the bearing housing. It is a fully floating setup which means there is a thin layer of oil between the shaft and the bearing, and the

bearing and the bearing housing. The small oil ways in the journal bearings are the reason you will hear turbo specialists banging on about oil contamination. It doesn't take a lot to block the oil ways and as you can imagine the shaft and bearings rotating that quickly without adequate lubrication won't last long!



Thrust bearings have become less popular now that ball bearing turbos have been introduced

THRUST BEARINGS

The thrust bearing works in conjunction with the journal bearings to take up the end float. When the turbo is spinning at 100,000rpm the compressor wheel is cutting through so much air that it tries to pull the whole shaft out of the front of the turbo, and it's the thrust bearing's job to prevent this from happening.

The turbine shaft is machined with a step in diameter, and this is where the thrust collar sits. Most standard turbos use a 270° thrust bearing, which allows the collar to simply

slide into place, but this does limit the amount of boost the turbo is capable of safely producing. An upgrade to a 360° bearing will offer increased boost potential, but requires work. The thrust collar now needs to be a two-piece item so that it can sit either side of a full 360° thrust bearing, which itself is also screwed directly to the bearing housing. This work adds to the cost of the turbo build, but it does mean the turbo can safely produce more boost, meaning more power potential.



BALL/ROLLER BEARINGS

The latest turbos use ball/roller bearings as opposed to the traditional journal bearing setup. These aid spool up by offering reduced frictional losses over a journal bearing turbo. The ball bearings are encased in a cartridge and do exactly the same job as the journal bearings do, supporting the turbine shaft. And because there is no end float to account for with the ball bearing cartridge, there is no longer any need for thrust bearing either.

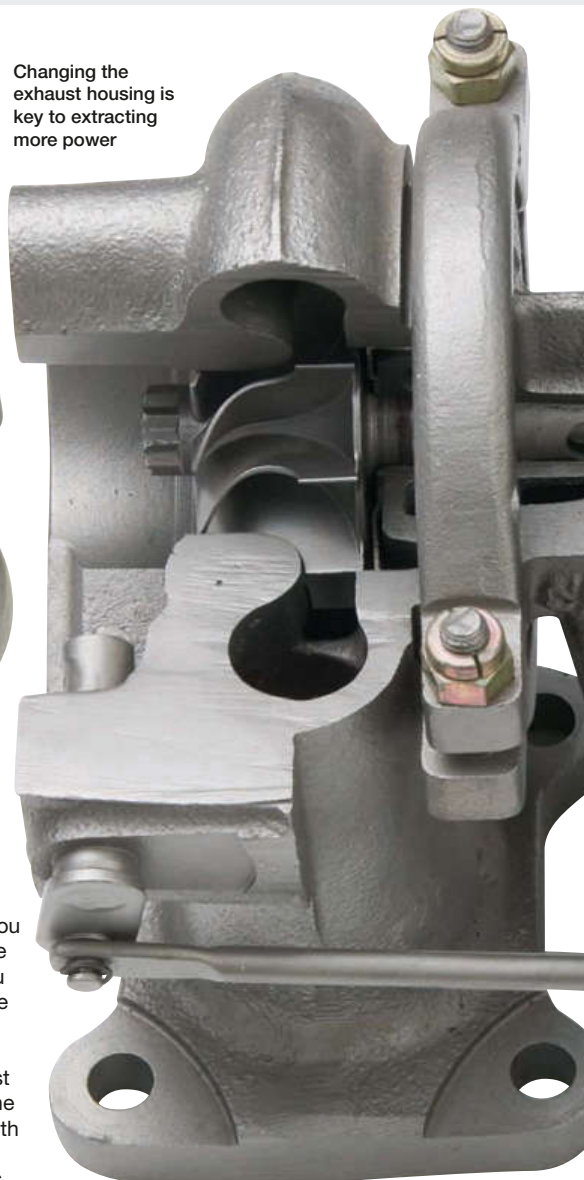
It's also possible to convert an older style journal bearing turbo to use a ball bearing core. Turbo specialists are able to machine the bearing housing to accept a ball bearing core.

Ball bearing cartridges hugely improve a turbo's response





Changing the exhaust housing is key to extracting more power



EXHAUST HOUSINGS

The exhaust housing has a big effect on the turbo's performance. It's not necessarily the size of the exhaust housing that is crucial, rather the Area/Radius ratio (A/R for short). Although the physical size of the housing will obviously alter the A/R ratio.

The best way to think of A/R is as a turbo's version of gearing. The smaller the A/R the easier the turbine wheel will spin up but the less power it will be capable of producing. The opposite is true of bigger A/Rs.

Imagine pulling away from a standstill in a car. If you are in first gear you will pull away

very quickly but the top speed will not be high when the engine hits the rev limiter. Now imagine pulling away in fourth gear. You will struggle to get away and will accelerate very slowly, but if you keep your foot in you will reach a much higher top speed with the engine doing the same revs as before.

There are plenty of options available depending on your application, but the best thing to do is seek the advice of your engine builder or turbo specialist and discuss it with them, they will be able to advise on an exhaust housing that best suits your needs.



COMPRESSOR HOUSING

There is slightly less choice with the A/R of compressor housings because they are largely the same across that range of turbo. Therefore you are usually stuck with what you've got, but turbo specialists can actually

machine, modify, and in some cases produce bespoke compressor housing with a different A/R ratios. For example, the popular Skyline T38 upgrade generally uses a T34 compressor housing that has been machined

to accept a larger compressor wheel – although some manufactures actually produce a bespoke compressor housing for this turbo with an A/R ratio that falls nicely between that of a T34 and a T4 turbo.

CENTRE BEARING HOUSING

The centre bearing housing does exactly as it says; it sits between the exhaust and compressor housings and is where you'll find the turbo's bearing setup. The very fine oil ways found in the bearing housing supply the oil to all the bearings and the turbine shaft, and because of their size are susceptible to blockage from oil contamination, making a turbo pre-filter a very wise move.

There are two main styles of centre bearing housing: one that is oil-cooled only, and one that is water-cooled. Oil-cooled only turbos rely on the engine's ability to keep its oil temperature under control, and in some cases this can result in an unwanted increase in oil temperature. In those situations a water-cooled turbo is a safer option, where the engine's cooling system is plumbed into the turbo to help keep the temperatures under control.



WASTEGATES

The wastegate is basically a bypass valve which opens when a certain boost pressure is reached and allows any excess exhaust gasses to bypass the turbine wheel and exit straight through the exhaust system, therefore keeping the turbo under control. Without a wastegate the turbo would simply overboost until it destroyed itself!

There are two main types of wastegate: internal and external. Internal wastegates are found within the exhaust housing. There is a penny washer covering the wastegate, and when the desired boost pressure is reached this is moved away (via an actuator) to open the wastegate.

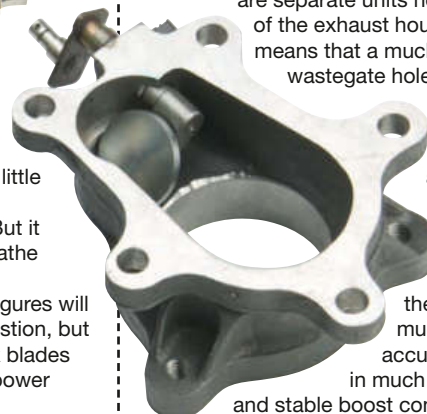
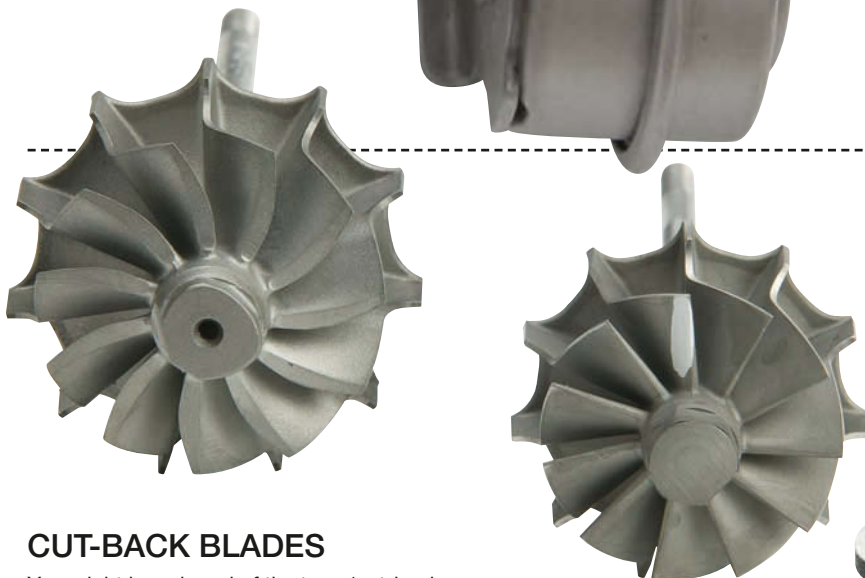
External wastegates do the same job but are separate units not forming part of the exhaust housing. This

means that a much larger wastegate hole can be used, which means you can control the amount of exhaust gases entering the turbo or exiting via the wastegate much more accurately, resulting in much more accurate and stable boost control.

CUT-BACK BLADES

You might have heard of the term 'cut-back blades', and they were huge buzzwords in the world of turbos for a few years. In reality it's quite a simple process. The idea of cut-back blades originates from rallying, where teams found the turbine shaft was spinning so fast that the huge centrifugal forces involved caused the edges of the turbine blades to clip the exhaust housing. The answer was simple – to shave or 'cut-back' the edges of the blades so they no longer catch the housing.

Doing so actually increases lag a little but with rally cars running anti-lag systems this was of little concern. But it also meant that the turbo could breathe better, and therefore achieve higher maximum power. Obviously exact figures will depend on the specific turbo in question, but as a general rule of thumb cut-back blades will increase the turbo's maximum power capabilities by around 20-30bhp.





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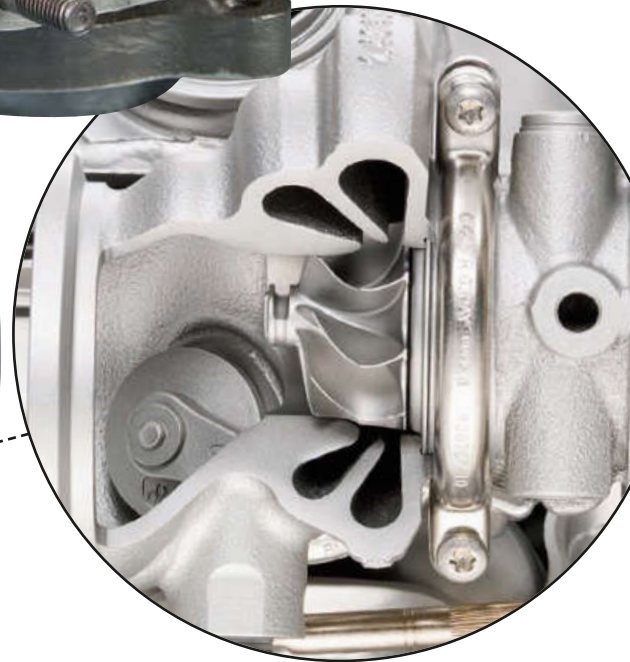
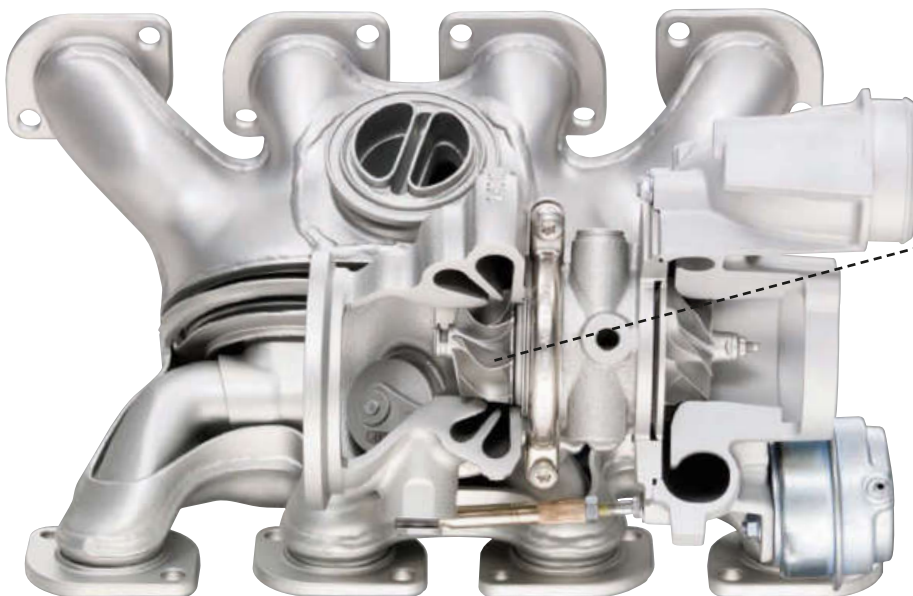
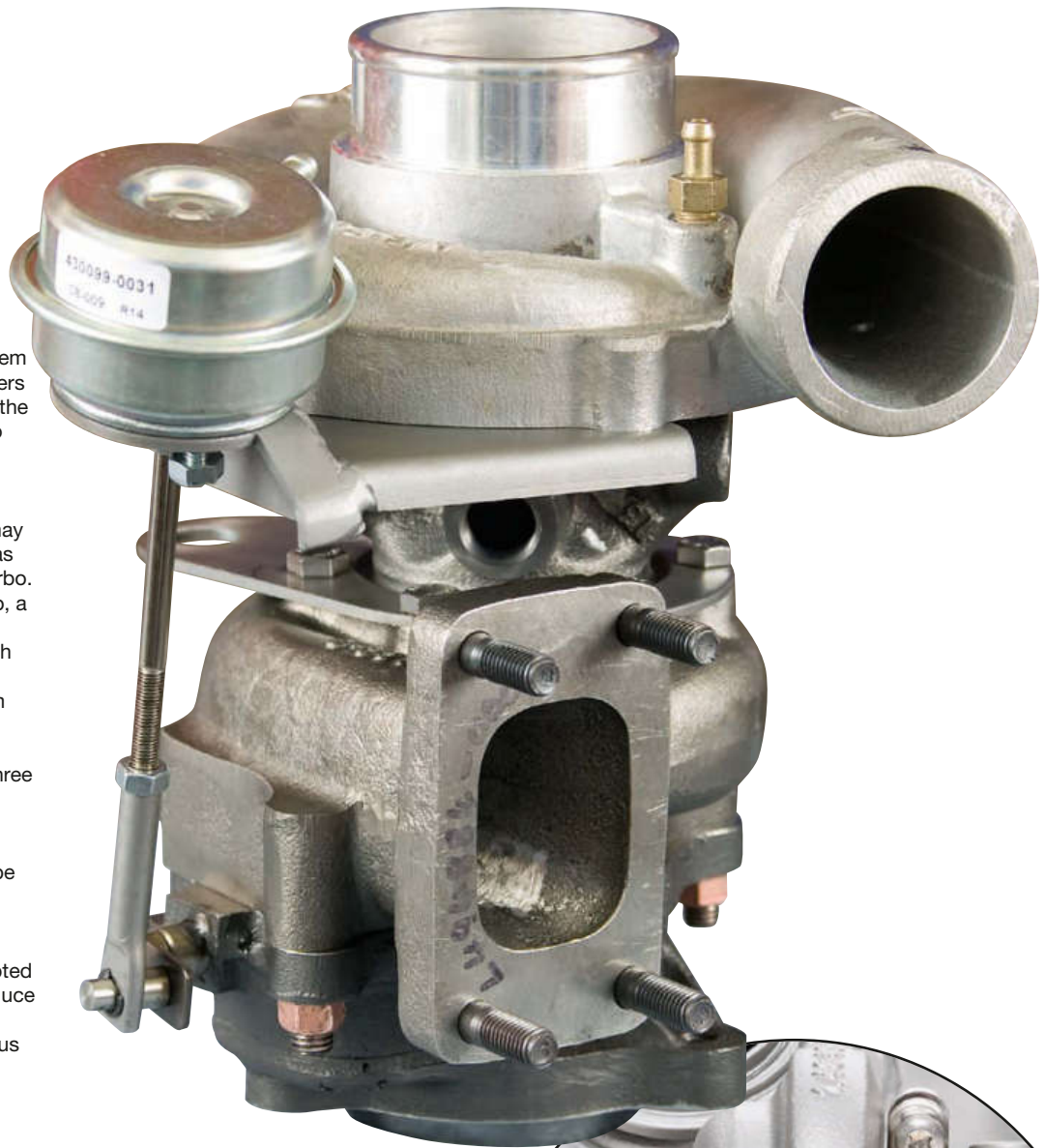
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SINGLE-SCROLL vs TWIN-SCROLL

Most mass-produced turbos use what is known as a single-scroll system. This system sees the exhaust gases from all the cylinders entering the turbo at one single point. For the most part that's fine, but when you start to consider the engine's exhaust gas pulses (especially on engines with unequal length exhaust runners) this system does have downsides. The pulse from one cylinder may interfere with pulses from other cylinders as they all try to take the same path to the turbo.

By dividing the entry point into the turbo, a twin-scroll system keeps the exhaust gas pulses that could potentially interfere which each other completely separate. In a traditional four-cylinder engine pulses from cylinders one and four will be paired and enter the turbo on one side of the divide, while gas pulses from cylinders two and three enter on the other side. This results in an improved scavenging effect and a significantly reduces a process caused reversion – where the exhaust gases can be disturbed so much that they actually turn around completely and start to fill the combustion chambers!

By providing a more efficient, uninterrupted route to the turbo we can actually help reduce lag and also keep the exhaust gas temperatures lower, which in turns allows us to make use of more aggressive ignition timing and increased valve overlap – all of which add up to help increase power! 🌟



A twin-scroll turbo features an exhaust housing that is divided into two for improved flow

COMMON PROBLEMS

Turbos are very delicate items and need to be treated as such, so here is a quick list of the most common problems that cause turbo death and what you can do to avoid it...



OIL CONTAMINATION

Oil contamination is a well-recognised problem but it still causes more turbo failures than anything else. The cause can be anything from bits of engine swarf from the running-in process, to irregular oil changes causing carbon deposits blocking the tiny oil ways.

PREVENTION

Frequent oil changes are key here. Also, general cleanliness when any work is carried out as it doesn't take much to cause an issue. A turbo pre-filter will help prevent oil contamination and is always recommended.



FAILED EXHAUST TURBINE

The most common turbine failure happens when the exhaust gases are so hot it either melts the turbine wheel or causes it to come away from the shaft. This is normally a result of a poor setup when the engine is running lean and causes excessively high exhaust gas temperatures.

PREVENTION

This can be easily avoided by simply ensuring that the engine is in good running health. If you can't check the fuelling yourself, then take it along to a specialist so it can be checked over and adjusted accordingly. This should be done as soon as possible if key parts have been changed.



IMPACT DAMAGE TO COMPRESSOR WHEEL

The biggest problem caused by any foreign objects hitting the compressor wheel is that it knocks everything out of balance, and an out-of-balance turbo won't last long. Impact damage can be caused by something as small as a spec of dirt, and is usually a sign that the air filter needs cleaning and/or oiling.

PREVENTION

This is easily done if the air filter is not doing its job or if it's not in place at all. Always make sure the air filter is clean and oiled at all times as dry filters go brittle and allow more dirt through. They can also break up after extended periods of time.



HOT STOP

After a good thrash, the turbo will be exceptionally hot and if you then turn the engine straight off, the turbo will stop spinning and the shaft will come to rest in one spot. As it is still hot it may actually bend slightly and cause the turbo to become out of balance. Also if you get it hot enough, oil will actually form hard lumps which cause hazards with bearings and oil contamination.

PREVENTION

To avoid this, it's vital to let the turbo properly cool down before switching the engine off. You can do this by either driving off boost for the last couple of miles of your journey, or allow your car to tick over on idle for a minute or two before turning the engine off. A turbo timer does this for you.



WASTEGATE ARM BENDING

This problem only affects internally-gated turbos, but is surprisingly common. The wastegate arm can actually bend due to age and heat cycles, causing the penny washer not to cover the hole it's supposed to. This causes slow spool up, because the exhaust gases are bypassing the turbine wheel and exiting straight through the exhaust system.

PREVENTION

The main cause of this problem is heat build up, so again, to avoid this occurring, it's always best to ensure that the engine is well set up and that exhaust gas temperatures are not too high.

Ametech fixes most Mazda RX8 hot start issues

How Restore Works

WHAT IS RESTORE AND WHY SHOULD I USE IT?

Every vehicle's engine wears out as a result of friction during normal operation. This friction causes wear of the cylinder walls which leads to compression loss. Lost compression results in your engine having less power - **it runs poorly and has sluggish acceleration**. It also can cause **increased oil burning, exhaust smoking, and poor fuel economy**.

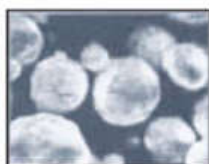
RESTORE Engine Restorer and Lubricant is a unique engine additive that repairs those worn-out areas in the cylinder wall thereby restoring cylinder compression and improving engine performance to nearly new original condition.

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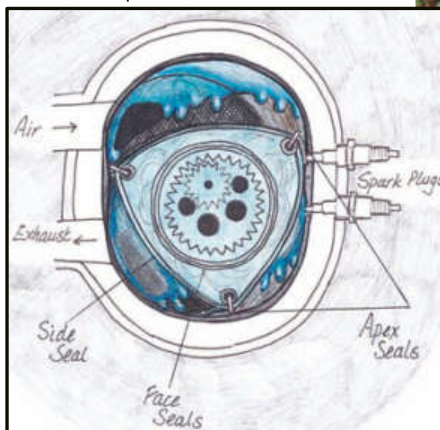
RESTORE'S CSL Formula Repairs Cylinder Walls



Compression and Power Restored to Near Original Levels



In the Mazda RX8 rotary engine — **Ametech Engine Restorer** coats the side walls, face plates, rotor walls, apex seals, corner seals, face seals, side seals, and eccentric shaft, journals and bearings, filling scratches with its unique CSL (copper/lead) formula to increase compression, restore power and mpg and improve hot starting. **Restore works** by filling the scratches cut by friction and wear into reciprocating or rotating metal-on-metal surfaces throughout the engine.



In addition, use of a good fuel treatment like **Ametech Restore Gasoline Treatment** or Intake Valve Cleaner will dissolve carbon build-up on the apex seals and exhaust ports, freeing up sticking rotors and improving combustion and compression, especially on the 192hp RX8s which are more prone to coking up.

250ml bottle.



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400ml can



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Feedback received from real eBay customers who used one 400ml can of Ametech Engine Restorer to help cure RX8 hot start issues:

I was very skeptical but it works. Rx8 starts just as easily hot as cold now! (mdrmaintenance)

Excellent product my rx8 is much improved, helpful seller (drakeysgottoo)

Worked on my RX8 helped starting (bac1460)

Hot start problem got better after 300 miles (bdingbding)

Almost a miracle for my RX8 (hales7341)

Worked very well, RX8 performing much better. – Would definitely use again. (shaansham)

18yrs as a tech! already halved the hot start time 1hrs running. I'm impressed! (blacktoy04)

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HONDA S2000

Here's a brief rundown on what you need to know when it comes to bagging yourself a second-hand example of Honda's finest convertible sports car...

Words: Simon Holmes Photos: Honda

Tech Spec

Engine: 1997cc four-cylinder

Power: 237bhp at 8300rpm

Torque: 153lb ft at 7500rpm

0-62mph: 6.2sec

Top speed: 150mph



HISTORY

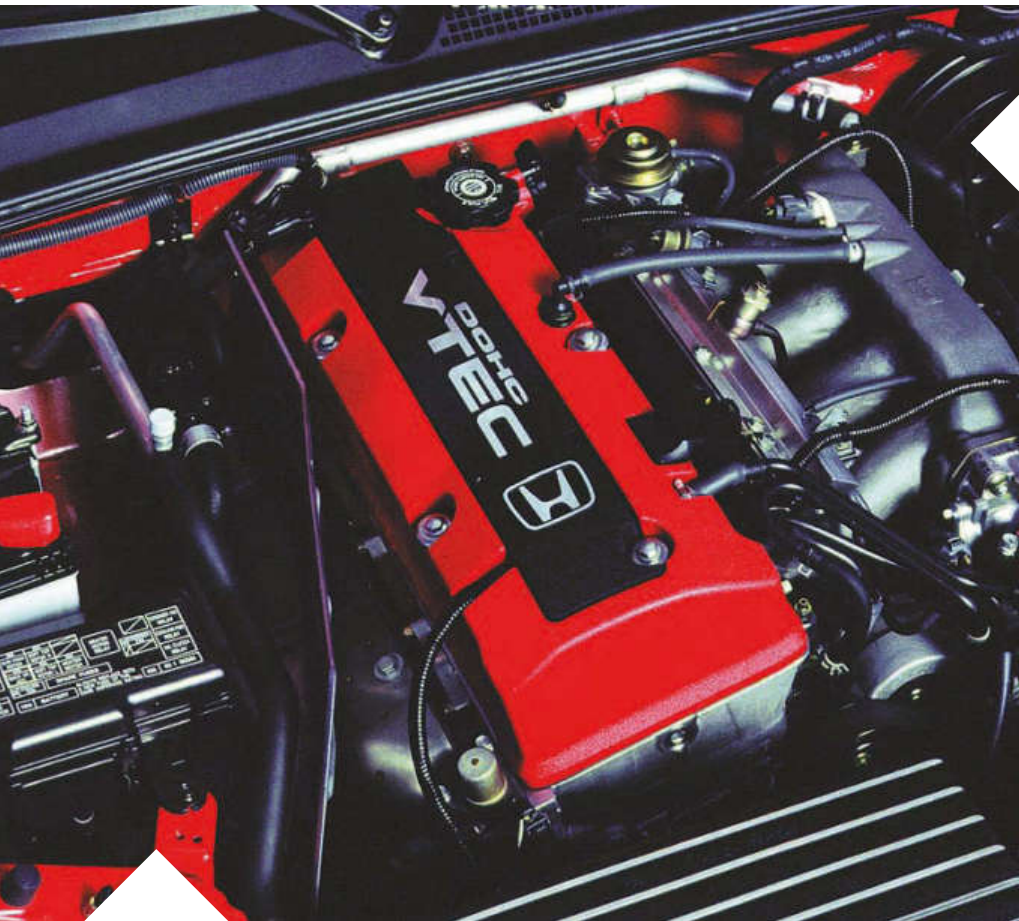
The S2000 made its debut to the world in 1999, and arrived on UK shores shortly afterwards. It had all the key ingredients for the perfect sports car recipe, from the simple front-engine, rear-wheel drive platform to the more complex 50:50 weight distribution and lightweight, double-wishbone suspension, both front and back. To cap it off there was the Torsen LSD, six-speed manual gearbox and that famed rev-happy engine. The 2.0-litre F20C VTEC engine that powered the S2000 produced a wholesome 237bhp at a screaming 8300rpm, although torque was considerably lower, at 153lb ft and it arrived late to the party at 7500rpm. Saying the

engine liked to be revved would be an understatement and the VTEC was happiest approaching the 9000rpm redline. The impressive output translated to more than ample performance, with 62mph from rest arriving in 6.2 seconds, before heading on to a 150mph top speed.

With the engine mounted behind the front axle, the car was technically mid-engined, but despite the perfect weight balance the car gained a reputation as being sketchy on the limit. As a result, in early 2002 the setup was revised with different spring, damper and anti-roll bars settings introduced. It was at this time that the rear window also changed from

plastic to glass and a GT pack was offered for the first time, offering a removable hard-top.

Later cars, from 2004 onwards, received further and more substantial changes, gaining additional structural bracing, further suspension revisions and larger alloy wheels, now 17" in size. Although power was supposedly the same across all years, these later cars did seem to go better, especially from low down. Two years later an electronic stability system was added and towards the end of production in 2008 suspension settings were revised once again before production ended for the S2000 in 2009 after a ten-year stint.



Chassis:

High mileage, as in above the 100,000 mark, usually takes its toll on the suspension bushes, so make sure you listen out for knocking noises over bumps, particularly from the front lower arms which tend to wear first. The suspension is all adjustable and it should be professionally checked after anything is changed. Some owners have opted to use 2004 suspension settings that seem more docile. Brakes-wise, look out for sticking calipers, causing a pull to the left or right, which is a well-known issue for both front and back. They can be refurbished or replaced easily enough.

Exterior:

Things are generally pretty good here, and body panels themselves don't tend to exhibit signs of rot. If it does show signs of rust, then walk away as it indicates a bad repair from the past and there are plenty of other examples to look at. The bonnet is made from aluminium and easy to damage and underneath, you should have a good look for early signs of corrosion as underseal is known to have had a light layer. The electric hood is usually reliable, but check the condition of the fabric for signs of wear, especially on the front part. Also check the roof has a firm, solid fit against the windscreen frame as the latches can wear, causing an annoying rattle and rain water to leak into the cabin. These are simple to replace.



WHAT TO LOOK OUT FOR

Engine and transmission:

The F20C itself is a strong unit, but these engines are known to sip oil on a regular basis. Some examples are much better than others and it's generally considered that those driven harder consume more, but it's luck of the draw so always ask the seller how much oil the car tends to use.

Consumption amounting to 1-litre every 1000 miles or so may seem a lot, but it's fairly normal behaviour. If the consumption is concerning you then check the PCV (Positive Crankcase Ventilation) valve isn't blocked, which is common and can cause excessive usage. These can be cleaned or replaced easily though.

Oil should be changed once every 6000 miles/six months and it's crucial the level is checked regularly before it runs low and develops a death rattle. A light rattling noise on start-up is also fairly common and will likely be down to either the timing belt tensioner, which can be replaced, or valve clearances, which can be adjusted. Keep a look out for broken valve spring retainers when doing the latter. The six-speed gearbox is pretty solid, but check it selects all gears. When cold, the 'box is known to be a little stiff but skipping gears, such as going fourth to sixth, can damage the synchro sleeves. It's possible to fix, but try and use all gears when possible.

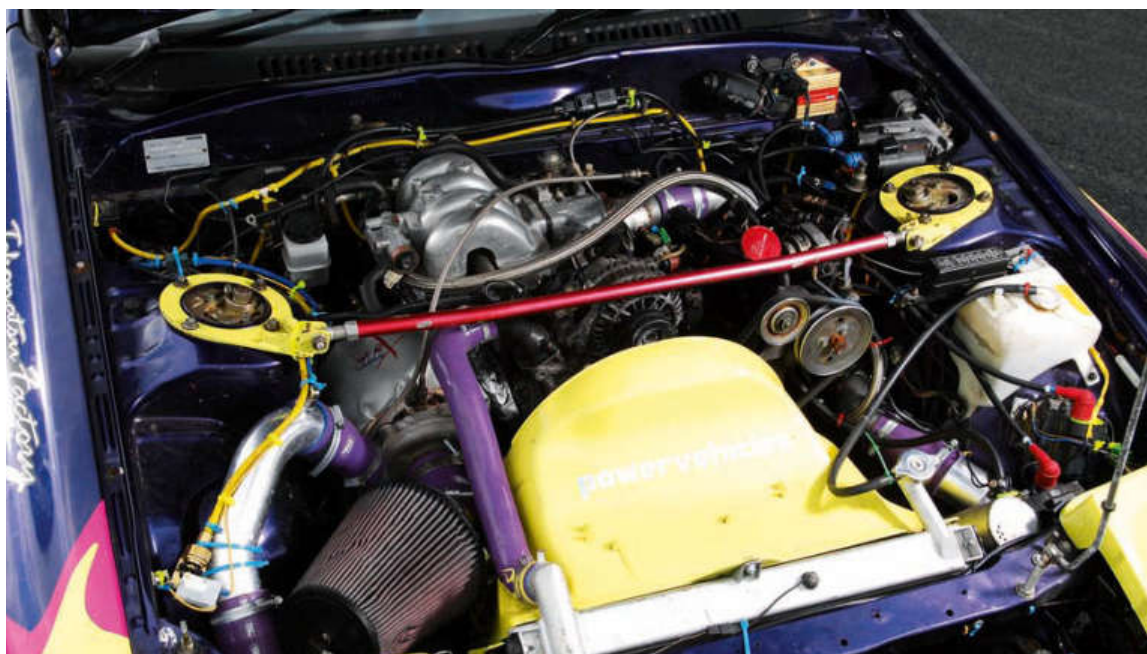
Interior:

The first thing to check when it comes to the inside is for signs of damp. Have a feel all around the carpet area down by the pedals and foot wells on both sides. If it's wet, then it could be the roof is leaking due to worn latches, an air-con condenser pipe is blocked or there's a rain water drainage hole blocked. Check which it is by pouring water over the top of the windscreen area and then separately testing the air-con. Otherwise, the interior systems and instruments rarely go faulty, but the plastic fittings and fixtures aren't the best quality, so inspect the trim fixings are still in place as they easily break, including the flap the radio hides behind.

Prices:

You can pick up an S2000 for less than you might expect, with prices starting at less than £4000. For that, you would be looking at an import car with high miles, so it's worth paying a bit more and gaining a lot more. Budget nearer £5000 and you'll find plenty more to choose from, although a majority will still have 100,000 miles under their belt. If they've been looked after, that isn't too much of an issue, but budget over the £5000 mark and you will bag an example with lower miles. From there, 2004 onwards cars with revised suspension start at nearer £7000 and the last of the line examples still command over £15,000 from a dealer. Bear in mind there are plenty to choose from, so you can afford to be picky and keep a look out for bargain GT hard-top versions.

Right: In original guise, back in 2007, the car was fitted with a street-ported 13B turbo but things have since changed quite a bit, as will be revealed next month...



Steve 'Stav' Neophytou

FC3S Mazda RX-7

■ **So far:** Street-ported rotary, T04E turbo, six-point 'cage, BN Sports wide-body kit, modified suspension and steering for drift use

■ **This month:** The story so far...

■ **Next month:** Big changes, big power, big fun

■ **Thanks:** Powervehicles for selling me the car (www.powervehicles.com)



I've owned my RX7 FC for almost six years now, and while it may be a weird way to start this write-up, I'll first say that it's amazingly well-known worldwide in the drift scene. I say this as while owning a 'famous' car sounds like something to be proud of, I find it really hard to understand! My RX-7 is an ex-D1SL car from Japan, and not only did it never even win a single D1SL round but there are hardly any photos or videos from the days that made it famous either!

This car was built by Japanese drift team Sexy Knights to compete in the 2006 D1 Street Legal drift series, and after one season, with no wins and a best result of fifth place, it was put up for sale in 2007. The car was very well done, but with a relatively mild spec. It had a street ported 13B rotary engine running a T04E turbo, a roll-cage, plus the usual drift upgrades of coilovers, two-way diff, modified hubs etc.

For some reason, though, (probably because the car looked absolutely bonkers due to the purple and yellow flame paint job and bright pink wheels), the handful of pictures and videos there were of it in action went viral, and it achieved worldwide



fame. Countless copies of it have been even made by fans for games like *Forza* and so on.

I noticed the car for sale in Japan in 2007, and while I loved it, I couldn't afford it. It seemed every man and his dog seemed to want to buy the car, too, so I didn't think it would be on sale for long. Amazingly, two years later, I noticed the car was still for sale, and as my bank balance looked a lot healthier by this time I wasted no time in contacting Japan-based specialist importer Powervehicles and bought it!

A couple of months later the car arrived in a container and it was time to have some fun. The standard of work was actually incredibly impressive and, as the car was only used for a few events, it was actually very fresh, and was rust-free.

It didn't take much to get it registered and MoT'd – it was a D1 'Street Legal' car after all – and a big part of the reason I bought it was its great all-round spec, so I didn't need to make big changes to make me happy with it.

No need for big changes and not making any are two very different things, however,

and one big thing I did do was double the boost level! It came to the UK running 0.7bar at wastegate pressure, and what it was actually mapped to in Japan was unknown, but as it was fitted with a HKS boost controller I knew it was more than just wastegate pressure, and I wanted to find out how much more...

I'm a big fan of water injection, and as det is hugely damaging to rotary engines, I created a pre-compressor water injection setup hooked up the AFR meter and det cans and did some testing.

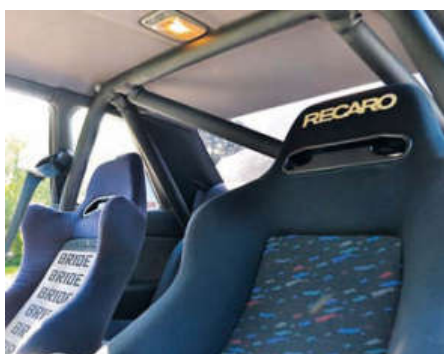
We got as far at 1.5bar with no det and good AFRs, so decided to leave it as that as it's already far more than most rotaries run in the UK after all. The difference the boost increase made was enormous, mostly in drivability as, while the car had always hit full boost around 3000rpm, at 0.7bar the real performance was from 5000-8000rpm, but at 1.5bar it was an absolute torque monster right from 3000rpm, transforming how the car drove. I love boost!

Throughout 2009 and 2010 I used the car for everything – drift days, sprint days, car shows, fast road use, and even drag racing

(120mph terminal speeds by the way, more than the RX-7 experts claimed was possible from a little T04E) and loved every minute. The car handled fantastically, had massive amounts of grip and, as it looked insane, it attracted huge amounts of attention everywhere it went.

In autumn 2010 the engine finally gave up the ghost thanks to a damaged rotor tip, and the reason the engine expired was entirely my fault and 100% avoidable, too. The jet of pre-compressor water injection setup, which played a vital part in the car's huge success at high boost, fell off at about 130mph, causing det and the aforementioned damage. It fell off due to me doing a temporary fit during testing, and it was so successful that I forgot all about fitting it properly, and it finally fell off. Yes, I'm an idiot.

It's been around five years since that fateful day, and many changes have happened since, though the car has only done around 1000 miles since due to various reasons! Next month I'll be showing you the car as it is today, and it's pretty mad, even if I do say so myself 🍀



Simon Holmes

R32 Skyline GT-R

■ **So far:** Ex-track car, plenty of suspension mods, N1 spoiler kit, half-cage

■ **This month:** Bought a car

■ **Next month:** Plenty, starting with wiring by the looks of it...

■ **Thanks:** My bank manager!

Have a guess what I bought this month? Yep, I'm now the proud owner of an R32 Skyline GT-R. Last month I left you deciding what to buy and after having my heart set on several different cars, I decided to go and have a look at this Skyline that was local to me. I turned up, took it for a drive, gave it a good check over and although the car was little down on punch, I was overall pretty impressed with it. Safe to say, I haggled a little and got it for what I thought to be a fair price.

So, what have I actually got myself here? First of all, it's a fresh import, having been in the UK for around three months, that appears to be rot-free and very clean underneath. Secondly, it appears the car was an ex-track day warrior over in Japan and, as a result, there are plenty of tasty modifications. Starting with the basics, there's suspension mods, and lots of them. I'm yet to confirm all is present for sure, but the impressive spec list that came with the car included Tein coilovers, adjustable front arms and a polybush set. There's also a Cusco LSD at the rear, a half roll-cage, lightweight wheels and the somewhat mandatory single Bride bucket seat, which is rather well worn. A non-



matching Recaro passenger seat resides next to it. Engine-wise, things have been kept to a sensible level, with only a pair of Blitz filters, an uprated Trust intercooler, a Blitz alloy radiator and a rather loud Trust exhaust system, apparently made from titanium. There are plenty of other nifty bits and pieces fitted as well, such as a short-shift kit, N1 kit and extra gauges.

First impressions? I love it far more than I expected I would. The suspension is way too hard for UK roads, but it's not at all crashy and it feels really tight, which I love. Performance-wise it feels lively, but not mega fast and it's set to just 0.7bar of boost at the moment. It feels like it would be huge fun on a race track in this state of tune as the turn-in is incredible and the LSD certainly makes it feel fun.

So, plans for the car? Plenty. The exhaust note is too loud, it sets off car alarms! The bodywork is generally very good for a car that's over 20 years old but it needs a little tidying, particularly where the front wings have been rolled and the paint is cracked. There's also a mess of wires lurking in the hole where the stereo should live, so I'll be investigating that. I also plan to soften the suspension up to make it a little more usable as, living in London, encountering speed bumps is a regular occurrence and the Skyline doesn't seem to favour them. Then, I'd like a touch more power, but not until it's been given a more thorough check over. Ultimately, I'd like the car to look clean and tidy but with some well selected mods to make it a bit of a weapon for the road. Exciting times ahead... 🌟



Left: Engine bay is pretty immaculate and only fitted with a few choice mods

Below: The exhaust is too loud and too big for my liking, that will need to change



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The Civic didn't miss a beat thanks to a much needed service beforehand

Sam Preston

EP3 Honda Civic Type R

■ **So far:** Yellow Speed Dynamic Pro Sport coilovers

■ **This month:** A road trip to Germany for some laps of the Nürburgring

■ **Next month:** New brakes and tyres (hopefully!)

■ **Thanks:** Tegiwa

(www.tegiwaimports.com), Honda-R

(www.hondaperformanceparts.co.uk),

Motul Oil (www.withamgroup.co.uk)



With my second trip of the year to the 'Ring scheduled for back in September, my friend Kris and myself got busy giving the Civic a bit of a service the weekend before we set off. Amazingly, my EP3 has managed to eat up over 15,000 miles since I bought it back at the start of 2015. So even though the last service was only a matter of months ago, I was keen to give it a bit of a freshen-up before the 800-odd-mile round trip down to one of my favourite parts of the world.

After replacing the shockingly dirty air, oil and pollen filters around the car, we then performed an oil change, opting to use Motul Sport Ester fluid as the new lubrication. This stuff was originally designed to keep race cars on the straight and narrow, so sounded perfect for the highly-strung VTEC engine.

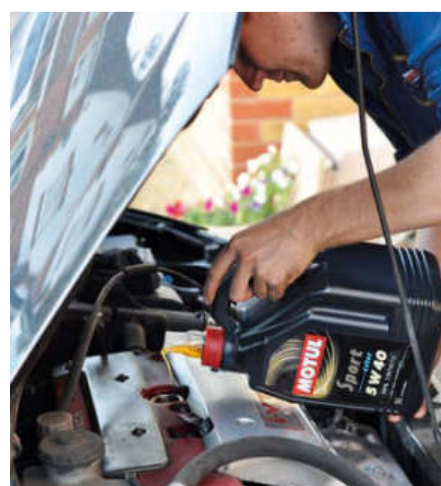
And then we were off. The long slog across Europe on the seemingly endless E40 motorway once you get off the Channel Tunnel proved surprisingly painless this time, with the Civic doing a great job of making the journey as comfortable as possible.

We'd planned our trip around a long Touristenfahrten weekend – where the track is open to anyone who has a valid ticket.

This means that you normally see a swarm of activity both on and around the track, in the form of cars, bikes, coaches, and pretty much anything else with wheels and a road-worthiness certificate. As it was one of the last big weekends of the summer we weren't surprised that the track was absolutely rammed for most of the weekend, which proved slightly disappointing for driving, but fantastic for spectating!

Kris and myself managed to put in some fairly decent bridge-to-gantry times by getting up extra-early before the masses had arrived at the gates, but spent pretty much all of the sunny weekend happily watching the endless stream of super-rare Porsches and other supercars that were chucking themselves around the 13-mile mountain course. Whilst we were there we did manage to give the car a thrashing, however, it performed in its usually brilliant ways, with just the brakes and tyres giving up the ghost towards the end of the lengthy circuit.

The 'Ring is undoubtedly a blooming wonderful place for any petrolhead to spend some time, although I was slightly put off by the sheer amount of traffic the Touristenfahrten 'tourist days' has started to attract. This is why, next time I visit, I am



planning to do so as part of one of the private track days which are now commonly put on at the venue. These limited-number events give you the chance to tackle the 'Ring in an open-pit lane fashion for a whole day, for a fixed price. Hopefully by the time this happens I'll have a few more chassis mods, and possibly even a little more power, up my sleeve... 🌟

GTR Shop

KPGC 10 Nissan Skyline GT-R

- **So far:** After years of searching, we found a genuine Hako-shape Skyline GT-R
- **This month:** The story so far, plus a full inspection
- **Next month:** Bare-shell restoration continues
- **Contact:** www.thegtrshop.com



So, this month we're starting work on this 'unicorn' – a 1971 Nissan Skyline 2000 GT-R. It's estimated that this is possibly the only genuine road-going GT-R of its shape currently in Europe. It took us nearly two years to find this particular example for our client. Wanting to own the best example, he gave us instructions to completely restore his new imported prized possession to the same standards as our own car – a 1972 Nissan GT-X (see pg22).

Setting off using a paint depth meter, we started by giving the body a full inspection. This gives us an idea of what to expect once

the old paint has been removed. Correctly stripping any vehicle for restoration is no mean feat; careful removal of parts need a delicate and thoughtful mind. Therefore, thorough packing and cataloging is a must. In Japan many parts are still available for these classics in OEM and reproduction guise, though these often come at a price that would make the eyes water.

Once we are down to the bare shell, we will proceed with the body preparation which will include a complete paint removal programme. As this vehicle has already had work carried out some time ago in Japan this

task will be made far harder than normal due amount of paint on the body, along with the fact that the underside and cabin floor appear to have been coated in a rubberised sealant which is resistant to media cleaning.

We took the decision not to acid dip the shell, a process commonplace nowadays for many. However the early build process of these cars makes this treatment inadvisable. So a full media strip is in order and some preparatory zinc body treatment to seal the shell before any oxidation gets to work.

Stay tuned for more updates, as this promises to be a very special build diary 🌟



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HONDA VTEC CHALLENGE

DRIVER:

Marc Kemp, Panic Link Motorsport

CAR:

EP3 Honda Civic Type R

RACE SERIES:

Toyo Tyres Honda VTEC Challenge

HISTORY OF THE CAR

The car was built by Arena Motorsport in 2003, and run in the BTCC for the next few years with drivers such as Tom Chilton and Mark Proctor behind the wheel.

It last competed in the BTCC in 2008 with Michael Doyle. After being sat in storage for some time, it was sold to Touring Car Spares in Brighton.

I bought the Civic on New Year's Eve of 2014. It was in a sorry state with a broken Xtrac gearbox but had 98% of its original parts. It needed a five-month full rebuild. Luckily, the specialist bodywork was still available from ABS Motorsport and all

affected panels were replaced.

Neil Brown Engineering (who built the original engine) lives in the same town as I do and refreshed the engine for me. The Penske suspension was rebuilt at the Penske factory itself.

To get around the gearbox problem, I replaced it with a much stronger Quaife 'box I already had in another EP3 race car. The ECU and dash didn't work so the ECU was repaired by EFI but after trying hard to keep the original Pectel dash it was eventually replaced with a more modern MoTeC colour dash.



SPECIFICATION: HONDA CIVIC TYPE R

PERFORMANCE 270bhp @ 8500rpm

ENGINE Neil Brown-built Honda K20A engine, 8500rpm redline (with 10,500rpm limit on downshifts), solid mounted to chassis, carbon fibre air inlet manifold with 60mm throttle body, Neil Brown Inconel exhaust manifold, JC WeldFab solid-mounted exhaust system, EFI TOCA-regulation ECU

TRANSMISSION Quaife five-speed sequential gearbox, plated 1.5-way limited-slip differential, Xtrac gear lever with flat shift, AP Racing pedalbox

CHASSIS 9x17" Team Dynamics Pro Race 1.2 alloy wheels with 255/40/17 Toyo R888 semi-slick tyres, alloy single-nut hubs, Penske three-way adjustable suspension, BTCC-spec AP Racing brakes front and rear, BTCC subframe and bottom arms

EXTERIOR Arena Motorsport BTCC wide-body shell, heated Perspex front windscreen, Plastics4Performance moulded Perspex windows, carbon fibre bonnet, PLM fibreglass doors

INTERIOR TIG-welded multi-point roll-cage, MoTeC D153 Mini colour digital dash, BTCC 60-litre fuel tank, Cobra bucket seat with Schroth five-point harness

BEST RESULT SO FAR?

I've done six races so far since the restoration, with five wins and one DNF due to a broken driveshaft on the start line.

DO YOU ENJOY THE VTEC CHALLENGE?

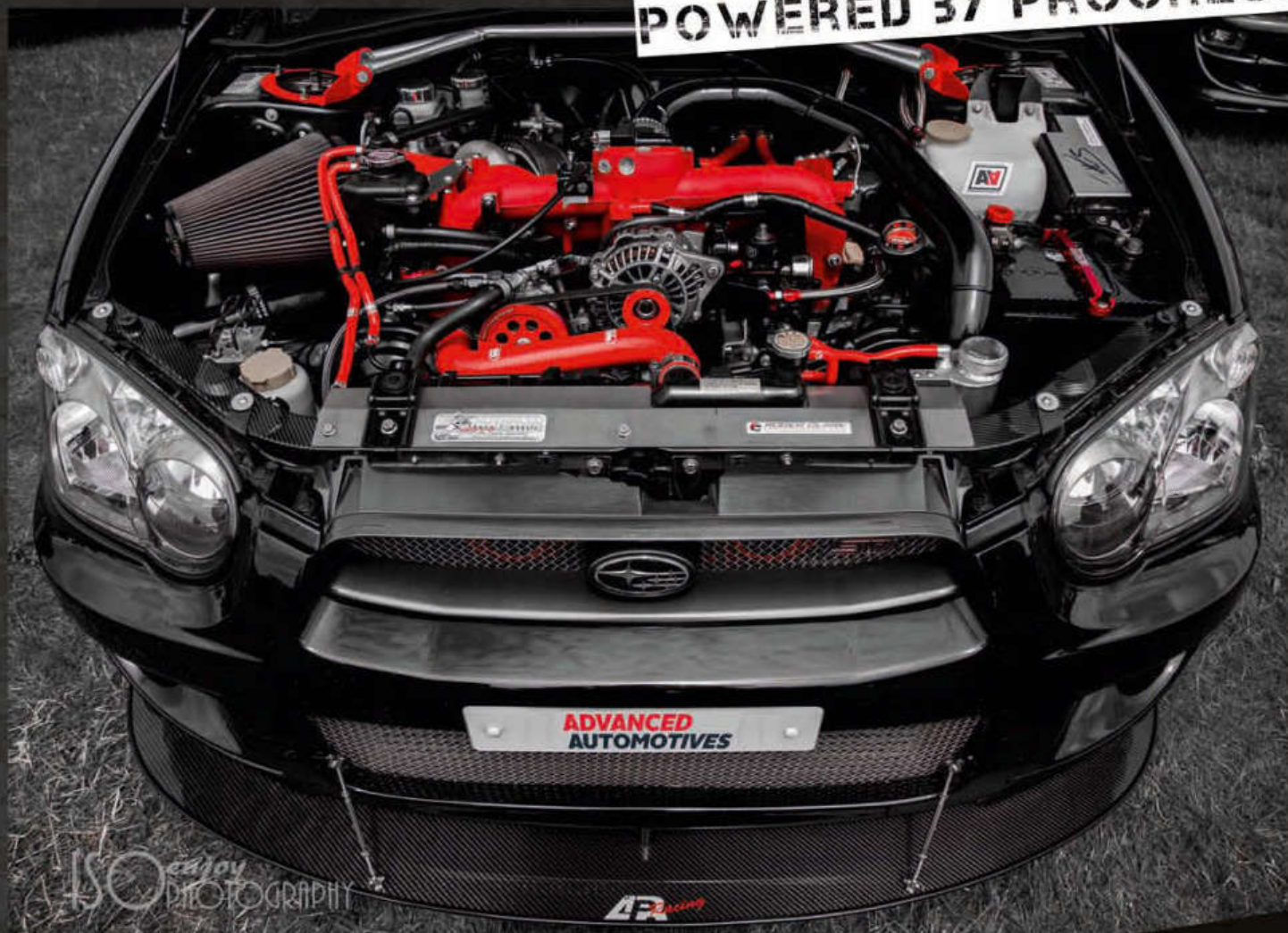
The VTEC Challenge is a very friendly race series with some great, clean racing. There's a good mixture of fast Hondas involved, including my dad who competes in the same Super Tuner class as me with a supercharged EP3 Civic Type R.

FUTURE PLANS?

There's only a couple of races left in this year's VTEC Challenge season. After this, I want to retire the car, refresh it and put it away as a future investment.

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CHRIS TAMS SUBARU IMPREZA WRX STI

The Ice blue paint job on Chris' Scooby may give away which limited edition this car is – one of 500 'WR1' models that were brought to the UK to celebrate Subaru's 2003 WRC victory.

WR1-spec'd cars came with a raft of upgrades to differentiate them from the vanilla STI, which means they're a rather sought after Impreza nowadays. Chris has therefore used a fairly restrained approach when modifying his car, which started with a full underside restoration including powdercoating all suspension components. The chassis was then polybushed and the car dropped onto a set of BC Racing coilovers.

In terms of styling, the Speedline seven-spokes have been replaced for some fresher Rota Grid wheels, which are set off with a carbon fibre front splitter, side skirt extensions and carbon fibre wing mirrors.

The 316bhp engine benefits solely from a full Cobra Sport exhaust system, providing Chris with more than enough power for most situations he finds himself in!



RICHARD TICKNER MAZDA MX-5

Like the geometric camo effect that covers the bodywork and matching roof box of Richard's Mazda? Us too, especially when we realised he's done it himself using some spray cans!

The military stealth look is added to with some extremely rare three-piece Revolution split-rims that have been adapted to fit,

complete with some comprehensive arch work to ensure they're nice and flush. Elsewhere, Richard's opted for HSD coilovers to make the 1.6 roadster's chassis even more fun, while a smattering of carbon fibre and a half 'cage suggest that he likes getting the most out of his fun little car.



LUKE STEVENS HONDA CIVIC TYPE R

Not all EP3 Civics are as cool as Luke's here. Using a combination of a slammed ride height and some choice body parts, he's created a very stylish little hatch.

Raceland coilovers were the only items that seemed to meet Luke's requirements for some serious lows, so a set was promptly ordered. Next up came the Airwalker replica splitter and Mugen grille and spoiler to create a much more aggressive appearance to

that of a standard car. The final piece of the puzzle in the styling department was a set of BBS RC041 rims, with Cadbury purple faces. This colour is also dotted around other parts of the car to really set the gorgeous rims off!

Tuning on the K20 motor is limited to an M2 back box mated to a Spoon Sports centre pipe and a Toyosports decat, which gives a little more growl on full chat.



BEN STEDMAN NISSAN 200SX

Let's get one thing straight from the start: Ben's S14A Silvia is no ratty drift machine. In fact, it's one of the cleanest examples we've seen in a very long time!

Ben is keen to state from the start how the low-mileage car is solid throughout, with no rust and an extremely healthy drivetrain. The 52,000-mile SR20 engine, therefore, produces a reliable 306bhp thanks to all the usual tweaks (FMIC, Walbro fuel pump, Japspeed

downpipe... you get the idea), while the chassis has been matched with Japspeed rear arms, APEXi coilovers and big brakes.

The bodywork is immaculate, bar a few scuffs on the front wings, and is enhanced with a set of tasty polished Rota Kyusha rims with 9.5 inches of width out back.

Well done Ben, you have a very tidy example of one of Nissan's finest coupés. Keep up the good work!



LEE THORN MAZDA 323F

Lee and fiancé Rebecca bought this V6-powered 323F last year with the intention to eventually race it in the Javelin Time Attack Trophy and the MSV Trackday Trophy in the next few years. On a tight budget, all modifications have been admirably performed by themselves on their driveway.

In the engine bay, things have been spruced up with some yellow colour-coding. More power comes thanks to a custom air intake and performance exhaust system to give that signature V6 burble.

With some yellow highlights on the bodywork, we think Lee and Rebecca have a truly unique little race car on their hands, and wish them the very best of luck once they get on the track!



CHRIS TULLETT NISSAN MICRA

We love a good oddball here in the *Street Life* section, which is why we just couldn't ignore this submission from Chris – his custom K11 Micra pickup!

Starting with a fairly mundane hatch, Chris decided to do something a little different by hacking away at the car's rear end and fabricating a teeny loading bay where the back seats once sat – impressively all carried out by himself.

The result is one of the cutest pickups we've ever seen, with other subtle styling tweaks such as the banded steel wheels and checker-plate doorcards all adding to that surprisingly purposeful aesthetic. We're not sure if we'd want to try and move house with this Micra, but we imagine it comes in great handy for smaller jobs!



BRANDON SCHELLHASE HONDA INTEGRA

It's fair to say Seattle-based Brandon's story of car ownership with his Integra here is a little out of the ordinary. "I actually bought this car for \$2!" he cryptically begins. A bit of digging reveals that Brandon purchased this car after winning a fair bit of money on a scratch card – luck chap.

So, what is it then? A JDM DC2 Type R? Wrong! "I'd say it's 95% Type R..." Brandon continues. The car was originally an automatic bog-standard Integra, which has since had almost every part replaced for that of a fiery Type R.

This means that Brandon is left with a super-clean B18 VTEC-powered beast that happens to also have a sunroof. Pretty cool we think! Further modifications on top of the Type R spec include an AEM cold air intake, a Mugen exhaust manifold, a Skunk2 short shifter and much, much more...

"The DC2 has been my dream car since I was 15," Brandon tells us, "and although it's not officially a Type R, I couldn't be happier with it!" To top it all off, Brandon has built a near-identical R/C mini version of his beloved coupé – now that's dedication!





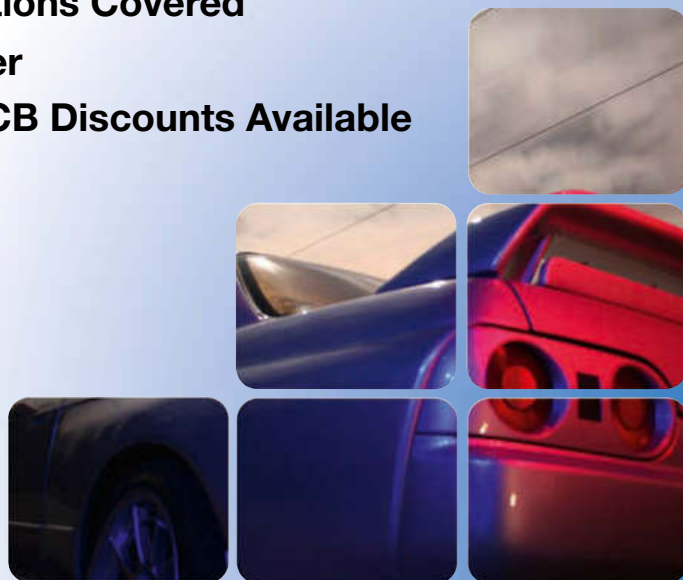
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Paul Rivett had a blast driving the 1995 Accord Super Touring car



SILVERSTONE CLASSIC SILVERSTONE CIRCUIT

At the end of July, Silverstone Circuit played host to one of its most popular events of the year – Silverstone Classic. A three-day affair which never fails to draw in under 100,000 visitors, it's almost impossible to experience everything that the action-packed race event has to offer by just dropping in for a single day.

2015 marked the 25th anniversary of the first 'Classic' event held at the heart of British motorsport, and organisers celebrated this by packing even more excitement than normal into the 72 hours.

Although set at the height of summer, the weekend was sadly one of the wettest on record. This did very little to stop the 20-odd spectacular races going ahead, though, with grids of painfully expensive metal being piloted door-to-door by some of motorsport's most celebrated faces from over the years.

It didn't take us long to spot some motorsport royalty as we wandered around the multi-million pound paddock area and we stumbled upon BTCC drivers Matt Neal and Gordon Shedden getting ready to race a Lotus Cortina in the 'Under 2.0-Litre Cars' event on the Saturday morning. The duo absolutely ate up the competition, developing a 15-second lead over the second place car by the end of the race, and producing some incredible YouTube video content as a result.

But the most indulgent moments of the weekend for us occurred during the Super Touring Car Trophy events scattered over the three days. This is the series which hosts all of those legendary Nineties BTCC cars you used to play with on the *TOCA Touring Cars* PlayStation game, and didn't fail in taking us on a fantastic trip down memory lane. First up, we spotted current touring car star Adam Morgan piloting the Roger Dowson Engineering-produced Mazda 323F – a car which sadly never saw the light of day in a competitive race but has become something of a legend as a result.

In the Saturday race, Stewart Whyte steamed to victory in his saloon series-winning Honda Accord, which looked absolutely gorgeous with its aggressive ride height and BBS Turbopan wheel covers. Modern touring car tuners, take note – this is how to create a great looking saloon racer! We also liked the look of Rob Fenn's 'Project NSX' race car, which has been built up gradually from a standard road car into this ITB-clad, carbon fibre weapon. We'll certainly be keeping an eye on this.

It wasn't just race action that kept punters entertained over the weekend; there were also vintage fairs, shopping villages, air shows and even Status Quo performing on the stage on Saturday night. And with a strong Japanese car presence on the club stands out in the car park we certainly weren't short of some Oriental goodness across the show. Hopefully we might even get some sun next year, too...

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The club stands were full of JDM marvels



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Rob Fenn's NSX means business



How cool is Stewart Whyte's Accord? Extremely, if you ask us...





CLUB PROFILE – ZERO7FOUR

We got the lowdown about one of Ireland's coolest JDM-specific car clubs, Zero7Four, from member Shaun McGonagle recently...

"The club started about six or seven years ago. A few of us started to run into each other at shows and at local meets around the Letterkenny area in Donegal, (right up at the north-west tip of Ireland) and became friends through our love for anything Japanese."

"We have always driven high-performance JDM cars and don't see that changing. The club is slowly growing, with around ten key founding members bringing something unique and completely built from the bottom-up."

"We try to represent the club and what Ireland can produce as much as possible, even though the Irish weather can try and stop us at times! The Donegal International Rally is our main event of the year because Letterkenny turns into a pilgrimage for petrolheads so you will always find us at the same spot each year representing for Zero7Four. If anyone is up there next year, come and say hello! We also make it our mission to have all of the Zero7Four army at JapFest in Mondello Park as this is the biggest Japanese Car event of the year in Ireland where you will see the best of the best the country has to offer."

"A lot of people always ask where the name came from and I have to say it took us quite a while to settle on a name but in the end we decided on Zero7Four or 074 as it is the area dialling code of where we are from, so it was a simple choice in the end."

CONTACT: www.facebook.com/zero7four

Photos: Paul Kent



NISSAN PULSAR GTI-R 25th ANNIVERSARY EVENT ROCKINGHAM MOTOR SPEEDWAY

Back in the summer, a very special event took place in the grounds of Rockingham to mark the 25th anniversary of one of the most loved hot hatches to ever come out of Japan – the fiery 4WD Nissan Pulsar GTI-R.

Organiser Simon Muton explains how the event took shape, and how the day itself went...

"Looking up at the dark sky on the gloomy Sunday morning which this event took place on, you could have mistaken the faint rumbles in the distance for thunder. But as it got louder, it became obvious that it wasn't an approaching storm but actually the arrival of nearly 30 Nissan Pulsar GTI-Rs congregating to celebrate their 25th anniversary!"

"The idea to commemorate the 25th anniversary came about from a post I put on Facebook to see if there would

be any interest in it. After over 30 owners got back to me, I decided I needed to act on this so started to discuss this with a few members on our forum. Before we knew it, there was around 50 owners wanting to make this a thing from all around the UK and people were even willing to fly in from Barcelona to get involved with the action!"

"I then started making calls around race circuits in the Midlands to see who could accommodate us for a track day-based event."

After a short chat with Will Thomas at Rockingham Motor Speedway, I decided it would be a ideal place for us to hold the meet.

"With around 15 cars on track and nearly 40 cars attending on the day the event was a huge success! I even managed to create some custom trophies and stickers thanks to the help of my brother, Stephen."

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If In Doubt, *Flat-Out*

Dan Hardwick is a man who knows his way around an Impreza. And for his latest project he decided to finally fulfil a long-held dream of big-power Bug Eye thrills...

Words: Daniel Bevis Photos: Andrew Thompson

Mid-September of this year marked the eighth anniversary of Colin McRae's tragic passing – a supernatural talent and a thoroughly decent guy whose infectious enthusiasm brought a real shot in the arm to the sport of rallying. His influence resonates strongly still and, while he's closely associated with cars such as Ford's Focus and Mk2 Escort and the Citroën Xsara, for many he'll always be a Subaru guy. So it feels eminently appropriate to be featuring the archetypal Impreza colour scheme in this

issue: blue with gold wheels. Many may see it as a played-out cliché but you can't deny the impact and presence of such a combination, coupled with those pumped-up arches and the towering rear spoiler. You're picturing it in 555 livery, aren't you?

McRae's mantra – 'if in doubt, flat-out' – is something very close to the heart of Dan Hardwick, owner of this brutal Bug Eye. "I've owned modified cars since I passed my driving test," he explains. "Since I was a kid growing up in Weston-super-Mare and watching the car culture around here made me hooked on fast, good-looking cars. My brother always had nice





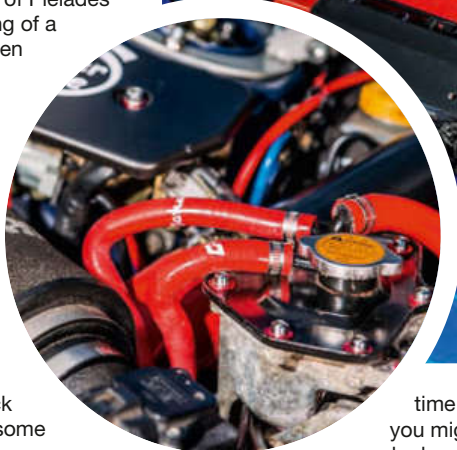
GD8 SUBARU IMPREZA WRX STI

cars too, Subarus and Evos and so on, which all contributed to my enthusiasm for fast motors."

Dan's the kind of guy who can't sit still for long and is always looking for bigger and brighter things on the horizon. He's owned 25 cars and counting, always getting itchy feet and moving on: modifying, driving the wheels off them; lather, rinse, repeat. And all of this in a high-octane, hell-for-leather fashion. "Once I'd spent all my hard-earned cash on a car, I'd sell it and start again!" he laughs. He's not alone in that, of course, lots of us have been guilty of that. The DVLA must have some interesting records on people like us.

Dan's introduction to the Stars of Pleiades ended up spiralling into something of a protracted love affair – as can often happen, they're addictive things. "I swapped my Proton Satria GTI for a green classic non-turbo Impreza, and there was no turning back from then on," he recalls. "I joined a local club and soon got the bug, met some great people, and some of my best friends today come from those first steps into the Subaru world. It didn't take me long to start craving a turbo Impreza, and I soon found one on the owners' forum. I struck up a deal for my non-turbo plus some cash, and with the keys to a turbo Impreza in my hand I started going to a lot of meets. And it was at a local meet that I saw a lovely Prodrive Bug Eye belonging to a guy called Bryn – now one of my best mates – and I was smitten with it; I remember seeing his anti-lag and launch control switches, and I knew that at some point in my life I had to have something similar."

See what we mean? The guy's insatiable, and his magpie eye for hot Subarus combined with his dogged determination to follow things through has seen this state of affairs come to pass rather sooner than Dan perhaps expected. Well, time waits for no man and all that – we're just a brief sneeze of



time on this planet, you might as well push ahead with ticking a few boxes.

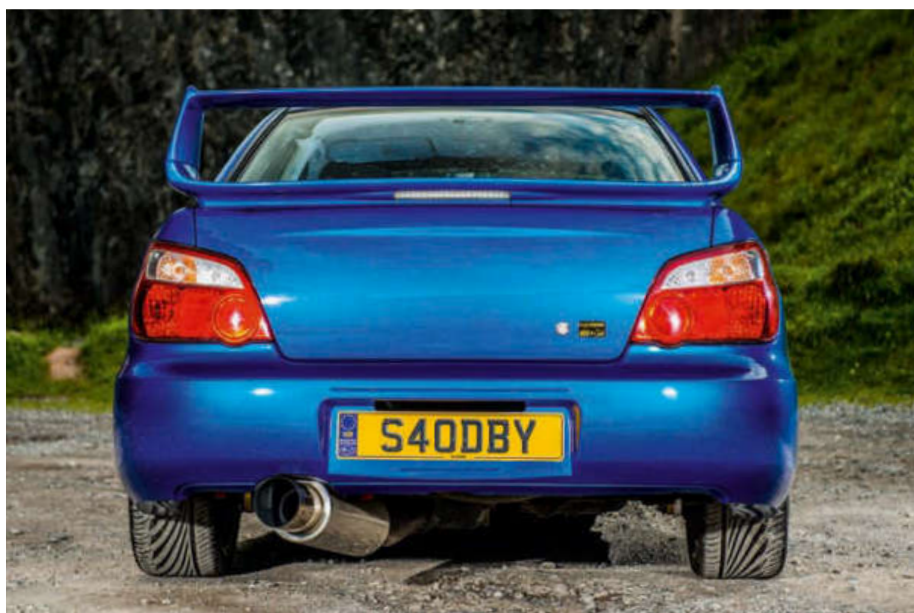
The car we're looking at here, S40 DBY, is evidence of this ethereal box-ticking. So how did he get from there to here? "I saw this car advertised on Pistonheads a while back," Dan recalls. "At the time I had a Blob Eye Impreza STI running 407bhp but once I saw this Bug Eye, the memories of that Prodrive one I'd seen years before, combined with the potential of the spec, meant that I was totally sold on it. I passed on the Blob Eye to my best mate Rich within a week, went up to Stafford and brought the car home. I was the owner of the car I'd always wanted."

A happy ending then, right? Well, yes and

no. Yes, Dan had finally fulfilled a long-held aspiration, but, no, this was far from the end. In fact, he had big plans. "The car was in great condition when I purchased it, although obviously there were things I wanted to change straight away," he recalls. "The original plan was to make the car my own and put my unique stamp on it, which meant changing quite a few parts." The first thing to experience the pointy end of the scalpel was the aesthetic treatment of the tail, which received the more detailed Blob Eye rear lights, with their separate circles that extend down into the bumper – oh, and that necessitated the fitment of a Blob Eye rear bumper, too, as the lights dip down into it slightly. (Well, you don't have to fit the bumper as well, the lights will fit either way – but it's a little more cohesive doing it this way, isn't it? And Dan's a belt-and-braces sort of chap.)

Inevitably, it wasn't long before our protagonist's thoughts turned to power. As bought, the car was already boasting an impressive 427bhp at 2bar, but Dan simply saw this as a starting point. "I felt that the car could be more efficient," he explains. "The turbo could produce more power, I was sure of that, so over the winter when show season had finished I bought a front-mounted intercooler and had it painted black. While it was off being painted I thought about other things I could do to improve efficiency." The common consensus on the specialist forums seemed to be that parallel fuel rails were a no-brainer in a big-power build, so he eagerly stripped off the inlet manifold and grafted in a set of top-notch parallel rails from CDF, complementing them with a Fuelab pressure regulator and braided hoses, along with a pair of RCM exhaust manifolds and an up-pipe.

"Next up, my mate Ant and I fitted the intercooler and a set of red silicone hoses, along with an oil catch can, and then it was



Blob Eye rear light and bumper conversion freshens up the rear end



"It's the combination of form and function that draws people in"

Engine & transmission: 2.1-litre stroker EJ20 flat-four, semi-closed deck block, nitrided version 9 crank, Mahle pistons, Manley H-section rods, ACL race bearings, ARP 11mm head studs, Cosworth head gaskets, AVCS heads, SC42 billet plus turbo, turbo blanket, AlcaTek ECU with anti-lag and launch control, flat-foot shifting, RCM headers and up-pipe, RCM thermostat, RCM oil cap, RCM battery tie, Japspeed front-mount intercooler painted black with red joiners, red silicone hoses throughout, 3" J Performance fully decatted exhaust system, Powerflex exhaust rubbers, 850cc injectors, custom CDF parallel fuel rails with Prodrive logo engraved, CDF billet catch can, Fuelab fuel pressure regulator, braided fuel hoses throughout, Perrin 4bar map sensor, Perrin radiator shroud, Perrin belt cover, Perrin intake pipe, Perrin induction kit, Rallytech dress-up kit including red washers, Rallytech header tank spacer kit, dump valve delete

Power: 442.6bhp and 420 lb ft of torque at 1.7bar boost, stock six-speed UK gearbox, Exedy Pink Box clutch

Chassis: 8x18" ET48 gold Speedline Turinis with Vredestein Ultrac Sessanta tyres, HSD Dualtech coilovers, Whiteline 24mm front and rear anti-roll bars, solid front and rear droplinks, anti-lift kit and strut brace, H brace

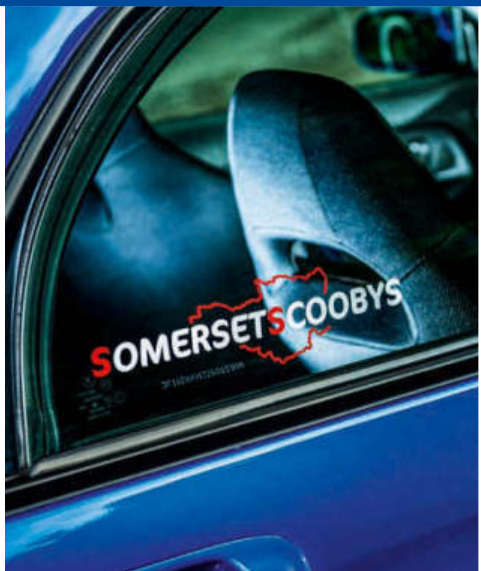
Brakes: K-Sport eight-pot front calipers with 356mm discs and Ferodo DS2500 pads, standard gold rear Brembo calipers with DS2500 pads

Exterior: Blob Eye rear lights and rear bumper, carbon-fibre side markers, carbon-fibre gel pillars, HID kit, club stickers

Interior: OMP steering wheel, NRG slim boss, JT Innovations Toucan touchscreen, JT Innovations shift light, Perrin gear knob, STI mats, Pioneer double-DIN touchscreen DVD head unit

Thanks: Antony Harvey, Rich Leeke, Iain Milford, Mark Gill, Bryn Whiting, Andy Flavell, Jenny Scully, every member of my club Somerset Scoobys, Nick and Cath at Advanced Automotives, Martyn and Alan Jefferies at Engine Tuner, Ken and Sarah at Hydrodip-Designs

GD8 SUBARU IMPREZA WRX STI



ready for mapping,” says Dan. “My mapper of choice is Martyn Jeffery at Engine Tuner in Plymouth, who always does a great job. My heart was in my mouth on the first run though – the dump valve bung shot out, and I thought the engine had popped! But Ant fixed it and we went for another run, Martyn winding it up to 1.7 bar. It’s kinda scary seeing an engine you built yourself with your mates being spooled up on the rolling road. You’re just willing it not to burst but I was certainly smiling when I saw the dyno screen shoot up to 445bhp! Martyn trimmed it back a touch to 442.6bhp, which I’m more than happy with!”

You can see by casting an eye over the spec box just how much effort has gone into ensuring that this engine and chassis are not just performing at their peak but are also

strong and usable. It’s a rich cast of characters that includes all the big names you’d expect along with one or two wild cards, all ensuring that Dan’s dream Bug Eye is an animal without being a handful. “I’ve done a couple of track days in it, and the flat-foot shifting is epic,” he grins. “And it’s the car I always drive to work in on Fridays too – Funday Fridays I call it, and I’m never late!”

If in doubt, flat-out, eh? Dan’s unrivalled thirst for Imprezas seems to be showing no signs of abating, and this is fuelled by Somerset Scoobys, a club he started initially as a Facebook group that’s been growing massively in stature. They have regular meets and field their own club stand at any JDM-themed show you care to name, with a wealth of knowledge and experience from members not just confined to Somerset, but

all over the UK and beyond. At the epicentre of it all, for Dan at least, sits this magical Bug Eye in its archetypal McRae-evoking colours. “The car always gets a great reaction,” he smiles. “It’s the combination of form and function that draws people in. I think they like that it goes as well as it looks.” And while there’s been a huge amount of effort pumped into getting the thing looking just-so, from those iconic Speedline Turinis to the smattering of carbon-fibre details that break up the blue paint, it’s the fact that Dan loves to wring the car’s neck using the vast reserves of eager horsepower that speaks most of that glorious rally heritage.

“You’re here for a good time, not a long time,” as Colin McRae once said. And what better incentive is there to follow your dream and build the car you’ve always wanted? 🚗



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Upgraded Fuel Pump
UK 320bhp WRX 330bhp STI 340bhp
DEAL PRICE: £3,300+VAT

Impreza Classic (99 - 00)

Performance Package 1

3" Stainless Full Exhaust System
Induction Kit
ECUTEK Remap
UK 275bhp WRX 300bhp STI 320bhp
DEAL PRICE: £1,300+VAT

Impreza Classic (99 - 00)

Performance Package 2

Same as Performance Package 1+
SC36 Billet Turbo
Upgraded Inlet Pipe
Upgraded Fuel Injectors
Upgraded Fuel Pump
UK 320bhp WRX 330bhp STI 340bhp
DEAL PRICE: £3,100+VAT

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December issue on sale 19 November

(Available to download from 16 November)

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NISSAN R35 GTR TUNING

Pro Alloy motorsport are one of the leading manufacturers of specialist alloy Radiators, Intercoolers and Fuel systems for the Motorsport industry. Our products are proudly hand crafted in the UK to exacting standards by craftsmen and technicians who have honed their skills from many years of intensive research development and fabrication. Pro Alloy has the solution to ensure your GTR R35 stays ahead of the competition.



1 Featured: "Ultimate" Intercooler Kit

R35 GTR INTERCOOLER KIT BY PRO ALLOY

It's always been our intention to do something a bit special with this car as its tuning potential is immense and they seem to be falling into the hands of Nurburgring bashers, track day nuts and fast road enthusiasts alike and for sure its going to be fairly hard to find an un-modified car in a year or two. With this in mind we thought it would be a neat idea to build our new range of products so everything is reversible... by this we mean you won't have to cut, bend, adjust or modify any part of the car to fit our parts and with regards to the intercooler kit, there are no modifications required to the OEM plastic cowlings or alloy bumper bar so of course, no compromise to safety. Everything you need is supplied in the box and when you are done with the car, take the kit off and sell it! For the intercooler, we have built two different versions, The "Pro" and the "Ultimate". Both coolers have the same core and hand-built end tank design, and are supplied with an alloy air scoop fitted to the cooler and of course all the mounting hardware to fit the cooler. The main differences are in the pipe work...

"Pro Spec" Intercooler Kit Most of the original boost pipe work and oem filters (or aftermarket) are retained - this kit is ideal for those not aiming for 4 figure BHP levels or for people who may have already invested in an aftermarket boost pipe and air filter set up. **£1914 inc VAT**

"Ultimate" Intercooler Kit Boost pipes, bespoke air filter pipes and filters, silicone hoses etc are supplied with this kit, but the big advantage of this set up is the configuration as we re-route the flow of the cooler making a much shorter and more responsive boost pipe run, we also re-site the air filters to grab more cold air from the front of the car and supply complete with 80mm MAF pipes, ideal for 4 figure BHP cars!. **£3300 inc VAT**



R35 GTR PRICES - ALL PRICES INCLUDE VAT

Pro Spec Intercooler kit (Black or Silver)	£1914
1 Ultimate Intercooler kit (Black or Silver)	£3300
2 High performance alloy water radiator (Black or Silver)	£822
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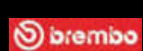


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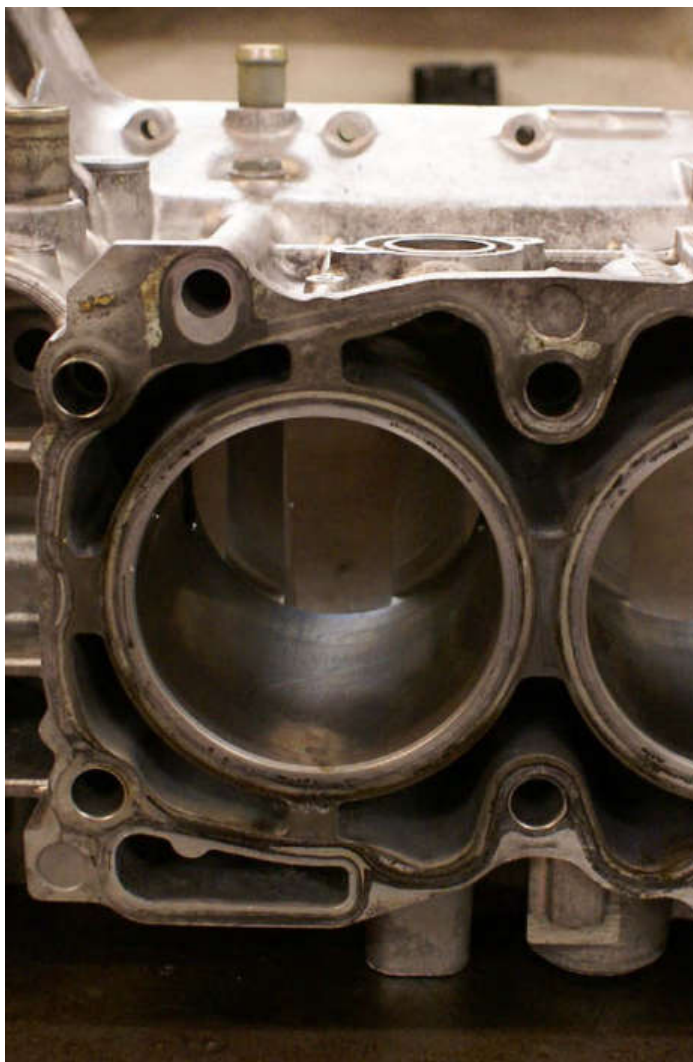
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In the first of a new series, we explain some of the common technical terms that you will often see mentioned in the pages of *Banzai*. To start off, let's take a look at what a **closed deck block** means – a term commonly used in the Subaru world...



To understand this one, we first have to delve into the basics of engine construction. The engine block incorporates the cylinders, or liners, which house the pistons and con rods. Around the outside of the cylinder walls there are passageways, often known as water jackets, that allow coolant to pass through in order to control the engine temperature. On a conventional open deck block these water jackets can extend all the way around the outside of the cylinder walls, leaving a large amount of open space. This leaves little in the way of structural support for the cylinder liners from the block itself. Whilst that isn't particularly important for most applications, even when tuned for increased power, for heavily tuned, high-

power engines the increased combustion pressure at TDC (Top Dead Centre) can cause the cylinder walls to shift, or flex, very slightly, as the top is now the weakest part of the cylinder wall. Flex can cause increased wear to the cylinder walls and piston rings or head gasket failure, and, in extreme cases, it will cause complete engine failure.

The term closed deck simply means that some of the water jacket's open area surrounding the cylinder is broken up, or filled in, by additional webbing, or bracing a part of the engine block design. Introducing more metal support around the outside of the cylinder to reinforce the liner ensures there is far less chance of it flexing. It's also possible to see what is often referred to as a semi-closed deck design, which, as the

name suggests, features some extra bracing, but not as much as a fully closed deck block that offers further support.

It's more common to find open deck block construction on a regular production engine simply because it's cheaper to produce, due to the way it's cast at the factory. Of course, the other advantage is that there is technically more coolant passing by around the outside of the cylinder walls, but the improvement is very marginal. A closed deck block not only offers more support to the cylinder walls but also supplies the head gasket with a more stable and supportive surface to seal against. The down side is the manufacturing cost when new, hence why it's rarer to find and only comes on selected, and usually sportier, models 🌸



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